OBSTETRIC TABLES

BY

G. SPRATT,

Surgeon Accoucheur.

PART I.

49346/C

J XXVI. Spr

3 ed. 3rd issue Vol I
1838

Plate III B re-drawn
Plate III wanting

OBSTETRIC TABLES:

COMPRISING

GRAPHIC ILLUSTRATIONS,

WITH

DESCRIPTIONS AND PRACTICAL REMARKS;

EXHIBITING ON

DISSECTED PLATES

MANY IMPORTANT SUBJECTS IN

MIDWIFERY.

BY

G. SPRATT, Surgeon-Accoucheur.

THIRD EDITION,

CONSIDERABLY ENLARGED AND IMPROVED—IN TWO PARTS.

PART I.

London:

PUBLISHED FOR THE AUTHOR

BY JOHN CHURCHILL, PRINCES STREET, SOHO;

MACLACHLAN AND STEWART, EDINBURGH; AND HODGES AND SMITH, DUBLIN.

MDCCCXXXVIII.

WELLCOME
LIBRARY
INSTITUTE

DEDICATION.

TO

SIR CHARLES MANSFIELD CLARKE, BART.

PHYSICIAN TO THE QUEEN.

Sir,

The high professional preeminence which your great talents as an Obstetrician, and your unwearied zeal in the alleviation of disease incidental to the female sex, have obtained for you, induced me to solicit the honor of placing this volume under your auspices. Encouraged by the flattering kindness which you have shown me, in condescending to examine and suggest many improvements in these Tables, and honored by your permission to dedicate them to you, I respectfully do so, feeling assured that a work (especially intended to promote the relief of female suffering) could not be so well placed as under your protection. That you may long continue to enjoy the exalted station in your profession which you now hold, is the sincere wish of,

Sir Charles,

Your very much obliged,

And very obedient, humble Servant,

THE AUTHOR.

Brompton.

TABLE OF CONTENTS.

Table I. } On the Progressive Development of the Ovum and
II. } Fœtus.

III. Female Organs of Generation.

IV. On the Signs of Pregnancy and Development of the Uterus.

I. B. Views of the Female Pelvis.

II. B. Pelvis with presentations of the Fœtal Head.

III. B. Distorted Pelves.

IV. B. Unimpregnated Uterus and Appendages.
Progressive changes in the Cervix Uteri, &c.

V. Impregnated Uteri. Extra-uterine conception, &c.

VI. Section of the Pelvis, exhibiting a lateral view of the Uterus in the progressive stages of Parturition. Examination per Vaginam, &c.

LIST OF SUBSCRIBERS.

Adams, James, Esq., Surgeon, 39, Finsbury Square.
Aikin, C. R. Esq., Surgeon, 33, Great James Street, Bedford Row.
Airey, — Esq., Surgeon, Broad Street, Golden Square
Aldis, Dr. 13, Old Burlington Street.
Allender, G. Esq., Surgeon, High Street, Whitechapel.
Andrews, Thomas, Esq., Surgeon, Park Street.
Appleton, James, Esq., Surgeon, 110, Holborn Hill.
Armige, T. J. Esq., Surgeon, 4, Philadelphia Place, Hackney Road, (for the Cambridge Heath Medical Society).
Ashburner, Dr., Wimpole Street.
Ashwell, Samuel, M.D. Lecturer upon Midwifery. &c, Devonshire Square.
Austin, M. Esq., Surgeon, Red Lion Street.

Badgley, Dr., 12, Lower Phillimore Place, Kensington
Barker, — Esq., Surgeon, Edgeware Road.
Barnwell, William, Esq., Surgeon, 7, Queen Charlotte Row, New Road.
Bell, Sir Charles, K.G.H., 30, Brook Street, Grosvenor Square.
Bevan, Thomas, Esq., F.L.S. Surgeon, Queen Street, Cheapside,
Beverley, Charles, Esq., Surgeon, Bethnal Green.
Beetham, Arthur, Esq., Surgeon, 49, Old Broad Street.
Bird, James, Esq., M.R.C.S., Surgeon, 259, Oxford Street.
Blackett, Powell, Esq , Surgeon, Green Street, Grosvenor Square.
Blaine, — Esq., Surgeon, Ongar, Essex.
Blake, Dr., Kennington.
Blandford, S. Esq., Surgeon, 20, Dover Street.
Bloxam, William, Esq., Surgeon, 4, Hanover Street, Hanover Square.
Blundell, Dr., Great George Street
Blundell, Thomas Leigh, M.D. Woburn Place.
Bowden, Edward, Esq., Surgeon, 135, Sloane Street.
Brian, Robert, Esq., R.N., Surgeon, 13, Spencer Street, Northampton Square.
Bright, Dr., Richard, 11, Saville Street.
Brodie, Sir Benjamin, Bart., Saville Street.
Broster, Thomas, Esq., Surgeon, 17, Queen's Buildings, Brompton.
Bryant, John, Esq., Surgeon, 50, Edgeware Road.
Bull, Thomas, Esq., Surgeon, 27, Finsbury Place.
Burrows, W. Esq., Surgeon, 1, Park Street, Islington.
Butler, James, Esq., Surgeon, 34, Seething Lane.
Butchell, S. Van, Esq., Surgeon, Percy Street, Bedford Square.
Byam, W. J. Esq., Surgeon, Nottingham Street.

Campbell, W. Esq., Surgeon, 23, Wilton Place, Belgrave Square.
Camplin, John, M. Esq., Surgeon, Finsbury Square.
Carruthers, George, Esq., Surgeon, Mile End Road.
Carruthers, James Mason, Esq., Surgeon, 29, Ludgate Street.
Chinnock, H. S. Esq., Surgeon, 12, Michael's Place, Brompton.
Cholmondeley, Joseph, Esq., Surgeon, 3, Nottingham Place, New Road.
Clarke, Sir Charles, Bart., Physician to the Queen, Saville Street.
Clough, Henry Gore, Esq., Surgeon, Upper Southampton Street.
Clarke, Henry, Esq., Surgeon, 51, Lamb's Conduit St.
Coates, G. Esq., Surgeon, 1, Hart Street, Bloomsbury
Conquest, Dr., Finsbury Square.
Copeland, Dr., Bulstrode Street.
Cooke, William, Esq., Surgeon, 39, Trinity Square.
Cumming, R. N. Esq., Surgeon, 26, Cheyne Walk, Chelsea.

D'Aranda, G. Esq , Surgeon, 27, Claremont Terrace, Pentonville.
Davidson, — Esq., Surgeon, North Street, Manchester Sq.
Davenport, Thomas, R. Esq., Surgeon, Harborough, Leicestershire.

Davies, Dr. Henry, Clifford Street.
Davis, Dr. David, D., Fitzroy Street, Fitzroy Square.
Davis, James, Esq., Surgeon, 33, Red Lion Square.
Dew, Dr. 82, Gower Street, Bedford Square.
De Grave, J. F. Esq., Surgeon, 41, Friday Street.
Dendy, Walter C. Esq., Surgeon, Stamford Street.
Desomeaux, D. Esq., Surgeon, 3, Brunswick Terrace, Islington.
Dover, Frederick, Esq , Surgeon, 54, Great Coram Street.
Doubleday, E. Esq., Surgeon, 170, Blackfriars Road.
Drew, H. P. L. Esq., Surgeon, 79, Gower Street, Bedford Square.

Earle, Henry, Esq., Surgeon, George Street, Hanover Square.
Edwards, Daniel, Esq., Surgeon, Queen Street, Cheapside.
Elsegood, H. C. Esq., Surgeon, 14, Upper Brook Street.
Evans, Lewis, Esq., Surgeon, 24, Finsbury Square.

Fairhead, James, Esq., Surgeon, 51, Goswell Road.
Farquhar, Alexander, Esq., Surgeon, King's Road, Chelsea.
Farrar, Edward, Esq., Surgeon, 48, Guildford Street, Russell Square.
Fernandez, Peregrine, Esq., Surgeon, 70, Lamb's Conduit Street.
Fincham, G. Esq., Surgeon, 5, Spring Gardens.
Flight, W. Henry, Esq., Surgeon, St. John Street Road.
Forbes, Dr., Argyle Street.
Freeman, Robert, Esq., Surgeon, Stony Stratford, Bucks.
Furnivall, W. H. Esq., Surgeon, Princes Court.

Gibbs, Dr., 6, Baker Street.
Godrich, Francis, Esq., Surgeon, Little Chelsea.
Gozna, Thomas, Esq., Surgeon, 29, Oxendon Street.
Granville, Dr., Grafton Street.
Graves, William Henry, Esq , Surgeon, 4, Alie Place, Great Alie Street, Whitechapel.
Green, Joseph Henry, Esq., Surgeon, Lincoln's Inn Fields.
Griffith, H. Esq., Surgeon, 39, Connaught Terrace.
Guthrie, G. J. Esq., Surgeon, 2, Berkeley Street.

Hall, Frederick, Esq., Surgeon, 14, Montague Street, Russell Square.
Hawkins, Dr. Bisset, Golden Square.
Hall, Thomas, Esq., Surgeon, 8, Store Street, Bedford Square.
Hallion, J. W. Esq., Surgeon, Warren Street, Fitzroy Square.
Hardy, W. Esq., Surgeon, 79, Gower Street, Bedford Square.
Harding, P. Esq., Surgeon, Dorset Street, Portman Square.
Hardey, R. Esq., Surgeon, Lower Road, Islington.
Harrison, Dr. E., Holles Street, Cavendish Square.
Harvey, William, Esq., Surgeon, 66, Great Queen St.
Hellier, R.B. Esq., Surgeon, 21, Montague Place, Russell Square.
Heygate, Thomas, Esq., Surgeon, Harborough, Leicestershire.
Hensleigh, H. Esq., Surgeon, 1, Gloucester Place.
Hewson, T. A. Esq., Surgeon, King Street, Covent Garden.
Hill, J. B. Esq., Surgeon, 3, Lamb's Conduit Place.
Hills, E. Esq., Surgeon, 1, Angel Terrace, Islington.
Holmes, John Pocock, Esq., Surgeon, 21, Old Fish Street, Doctor's Commons.
Holt, H. F. Esq., Surgeon, Holywell Street, Westminster.
Hood, P. Esq., Surgeon, Norton Street, Portland Place.
Hodgkins, Dr., New Broad Street.
Horwood, John, Esq., Surgeon, Northampton.
Hulman, William, Esq., Surgeon, Argyle Street.
Hunter, Thomas, Esq., Surgeon, 5, Cooper's Row, Trinity Square.
Hunter, John, Esq., Surgeon, 83, Mincing Lane.
Hunt, Henry, Esq., Surgeon, 15, Lower Brook Street, Grosvenor Square.

Iliff, William Tiffin, Esq., Surgeon, F.L.S. Newington, Surrey.

Jenfferson, J. F. Esq., Surgeon, Barnsbury Place, Islington.
Johnson, James, M.D., Physician Extraordinary to the King, Pall Mall East.
Jones, Henry, Esq., Surgeon, 7, Carlisle Street, Soho Sq.

Kenny, Bernard, Esq., Surgeon, Strand.
Kerbey, W. Esq., Surgeon, Brompton Row.
King, John, Esq., Surgeon, Stepney.
Kisch, Jos., Esq., Surgeon, 4, Broad Street Buildings.
Kitching, G. Esq., Surgeon, Aldersgate Street.

Laisne, G. J. Esq., Surgeon, 4, Eaton Square.
Langmore, Dr., Finsbury Square.
Lavies, J. Esq., Surgeon, King Street, Westminster.
Leary, Daniel, Esq., Surgeon, 16, Parliament Street.
Lee, Dr. R., Golden Square.
Leese, Edward, Esq., Surgeon, 16, Baker Street.
Leese, Lewis, Jun. Esq., Surgeon, 11, South Street, Finsbury Square.

Locock, Dr. Physician extraordinary to the Queen, 9, Hanover Square.
Loe, Charles, Esq., Surgeon, Stony Stratford, Bucks.
Love, J. Esq., Surgeon, Gilbert Street.

Malim, Wentworth, Esq., Lincoln's Inn Fields
Mart, G. R. Esq., Surgeon, 61, Frith Street, Soho.
Martin, Charles, Esq., Surgeon, 8, Connaught Terrace.
M'Cann, Nicholas, Esq., Surgeon, 50, Parliament St.
M'Crea, J. Esq., Surgeon, Islington.
Merriman, Dr., Brook Street, Grosvenor Square.
Menzies, R. Esq., Surgeon, 86, Upper Stamford Street.
Miller, Dr. S. New Basinghall Street.
Morgan, C. Esq., Surgeon, Bedford Row.
Morrah, J. Esq., Surgeon, 62, Sloane Street.
Morgan, John, Esq., Surgeon, 22, Chapel Street, Belgrave Square.
Morris, Dr., Princes Court.
Morley, Henry, Esq., Surgeon, 100, Hatton Garden.
Muller, — Esq., Surgeon, 46, Hans Place, Chelsea.
Mugliston, W. S. Esq. Surgeon, Brewer Street, Somers Town.

Newberry, Francis, Esq., Surgeon, 28, Wilton Place, Belgrave Square.
Northampton Infirmary, the Medical Library of the.

Outlaw, H. M. Esq. Surgeon, Wellingbro, Northampton.
Owen, C. T. Esq., Surgeon. 146, Holborn Bars.

Painter, R. Esq., Surgeon, Broad Way, Westminster.
Pater, Richard, Esq., Surgeon, Honduras Terrace, Commercial Road.

Painter, James, Esq., Surgeon, 26, Howland Street, Fitzroy Square.
Pardoe, Dr., 30, Great James Street, Bedford Row.
Percival, William, Esq., Surgeon, Northampton.
Perry, John, Esq., Surgeon, 59, Ebury Street, Pimlico.
Peregrine, Dr., 3, Half Moon Street.
Perry, John, G. Esq., Surgeon, Great James Street.
Phillips, James, Esq., Surgeon, Bethnal Green.
Ponder, William, Esq., Surgeon, 22, King Street, Covent Garden.
Porter, Thomas, Esq., Surgeon, 1, Euston Place, New Road.
Potter, John, Esq., Surgeon, Ongar, Essex.
Propert, John, Esq., Surgeon, New Cavendish Street.

Ramage, Dr., Ely Place.
Ramsbotham, Dr., Francis H. New Broad Street.
Randall, Alfred, M. Esq., Surgeon, 50, Finsbury Square.
Reading, The Medical and Surgical Society.
Reid, J. Esq., Surgeon, Charlotte Street, Bloomsbury.
Reynolds, Henry, Esq., Surgeon, 48, Prescot Street.
Riadore, Evans, Esq., F.L.S. 17, Tavistock Square.
Rigg, Robert, Esq., Surgeon, 10, Upper George Street, Edgeware Road.
Ridge, John James, Esq., Surgeon 1, Bridge Road, Lambeth.
Ridge, Benjamin, Esq., Surgeon, ditto.
Robinson, Thomas J. Esq., Surgeon, 31, Store Street, Bedford Square.
Robertson, Dr., Northampton.
Rowe, Matthew, Esq., Surgeon, 24, Woburn Place.
Rowe, — Esq., Surgeon, Chigwell, Essex.
Rutherford, Samuel, Esq., Surgeon, 132, Ratcliff Highway.
Ryan, M. M.D., Lecturer on Medicine, Obstetricy, &c., 4, Great Queen Street, St. James's Park, Westminster.

Saner, James, Esq., Surgeon, Finsbury Square.

Scard, E. Esq., Surgeon, Bernard Street, Russell Square.
Shaw, W. Esq., Surgeon, Hampstead.
Sharp, James, Esq., Surgeon, 19, Grosvenor Street, West, Eaton Square.
Sigmond, Dr., 24, Dover Street.
Skegg, Robert, Esq., Surgeon, Bedford Street, Covent Garden.
Smith, J. S. Esq., Surgeon, 19, Trinity Square.
Smith, C. Esq., Surgeon, 10, Upper Queen's Buildings, Brompton.
Smith, W. Esq., Surgeon, 79, Goswell Street.
Snitch, C. G. Esq., Surgeon, Brydges Street, Covent Garden.
Spencer, — Esq., Surgeon, St. John Street Road.
Squibb, G. J. Esq., Surgeon, Orchard Street, Portman Square.
Stevens, Frederick J. Esq., Surgeon, 190, Sloane Street.
Stott, Thomas, P. Esq., Surgeon, 9, North Audley Street.
Sutherland, Dr., Parliament Street.

Terry, H. Esq., Surgeon, Northampton.
Thomson, Dr., 58, Hermitage Place.
Thompson, Dr. Theop., 15, Keppel Street, Russell Square.
Thomas, H. Leigh, Esq., Surgeon, Leicester Place.
Thomas, D. Esq., Surgeon, Upper Dorset Street.
Turner, Henry, Esq., Surgeon, 31, King St. Bloomsbury.
Tuson, Edward, Esq., Surgeon, Russell Place, Fitzroy Square.

Uwins, David, M.D., Bedford Row.

Van Oven, Barnard, Esq., Surgeon, 25, Broad Street Buildings.
Vaux, C. B. Esq., Surgeon, 36, Pudding Lane.
Vickers, W. R. Esq., Surgeon, 9, Thayer Street.
Vines, Charles, Esq., Surgeon, 4, Warwick Court, Holborn.

Warburton, Dr., Clifford Street.
Ward, William Squire, Esq., Surgeon, Overton, Notts.
Watson, Thomas, Dr., Henrietta Street, Cavendish Square.
Walshman, Dr., Kennington.
Webster, George, Esq., Surgeon, 78, Connaught Terrace.
White, George Francis, Esq., Surgeon, 45, Gloucester Terrace, Commercial Road.
Whiting, Dr., Borough.
Whitmore, Henry, Esq., Surgeon, Cold Bath Square.
White, Anthony, Esq., President of the College of Surgeons, Parliament Street.
Weatherhead, Dr., Golden Square.
Williams, J. H. B. Esq., Surgeon, Aldersgate Street.
Wormald, Thomas, Esq., Surgeon, 42, Bedford Row.

SUBSCRIBERS IN LIVERPOOL.

Archer, Francis, Esq., Surgeon, Renshaw Street.
Baird, Dr., Duke Street.
Bickerstaff, B. Esq., Surgeon, Rodney Street.
Banner, Maurice John, Esq., Surgeon, Rodney Street.
Bromilow, Samuel, Esq., Surgeon.
Bryce, B. M.D., Upper Islington.
Burrowes, John, Esq., Surgeon, Great Orford Street.
Blackburn, Thomas, Esq., Surgeon, Camden Street.
Bradley. E. Esq., Surgeon, Great Nelson Street, North.
Beirly, J. Esq., Surgeon.

Chater, George, Esq., Surgeon.
Corlet, — Esq., Surgeon, Upper Duke Street.
Callon, John, Esq., Surgeon, R.N.

Dobbie, C. Esq., Surgeon, Brownlow Hill.

Edwards, Dr., Bold Street.
Eden, Thomas, Esq., Surgeon, Mount Pleasant.

Gillon, Andrew, Esq., Surgeon, Clarence Street

Hensman, Thomas, Esq., Surgeon, Rodney Street.
Hicks, John, Esq., Surgeon, Richmond Row.
Harrison, P. Esq., Surgeon, Infirmary
Hayes, Thomas Esq., 6, St. Anne Street.
Infirmary, Liverpool.

Jeffrey, A. C. Esq., Surgeon, Great Crosshall Street.
Jones, Ellis, Esq., Surgeon, Duncan Street, East.
Lewtas, Thomas, Esq., Surgeon, Hunter Street.
Lockwood, Thomas, Esq., Surgeon, London Road
Lane, Dr. Hunter

Malins, James, M.D. Lecturer on Midwifery, 42, Bedford Street.
Martin, H. Esq., M.C.S.L., Clarence Street.
Minshull, J. L. Esq., Surgeon, Norton Street.
Marshall, James, Esq., Surgeon.
Marshall Buckanan, M.D., Clayton Square.
Master, — Esq., Surgeon, Old Hay Market.
Manifold, Hugh, Esq., Surgeon, Elliot Street.
Mc. Kee, — Esq., Surgeon.
Mc. Cullock, — Esq., Surgeon, Duke Street.
Marshall, John, Esq., Surgeon, Duke Street.

Niell, Hugh, Esq., Surgeon, Oxford Street.
Nightingale, — Esq., Surgeon, Liverpool Fever Hospital.
Nicol, John, M.D., Great George Street.

Ortt, Edmund, Esq., Surgeon, Duke Street.

Pennington, Thomas, Esq., Surgeon, London Road
Park, — Esq., Surgeon, Edge Hill.
Parr, John, Esq., Surgeon, Camden Street
Petrie, J. Esq., Surgeon, Parliament Street.
Pearson, David, Esq. Surgeon, Hill Street.
Powell, Edward, M.D., Islington.
Palmer, Hall, Esq., Surgeon, Brownlow Street.
Pearson, John, Esq., Surgeon, Pembroke Street.
Rutter, Dr., St. Anne Street.
Robertson, Archdeacon, M.D., St. George Street.
Roskill, M. Esq., 23, Rose Place.

Shaw, John, Esq. Surgeon, Seymour Street.
Simon, T. Esq. Surgeon.
Stubbs, Henry, Esq. Surgeon, Upper Duke Street.

Taylor, John, Esq., Surgeon, Seddon Street.
Tetlow, H. T. Esq., Surgeon, St. Anne Street.
Turner, William, Esq., 25, Rose Place.

Wainwright, H. Esq., Surgeon, Everton.
Worthington, C. Esq. Surgeon, Rodney Street.
Whitley, Thomas, Esq., Surgeon, Islington Terrace.

CHESTER.

Bagnall, — Esq., Surgeon.
Griffiths, Thomas, Esq., Surgeon.
Harrison, John, Esq., Surgeon.
The Medical Society of Chester

PRESTON.

Bradley, — Esq., Surgeon.
Brown, R. Esq., Surgeon.
Moore, Alfred, M.D.
Orrell, J. Esq., Surgeon.

WARRINGTON.

Hall, Edward, Esq., Surgeon.
Kendrick, James, M.D.
Sharp, John, Esq., Surgeon.

MANCHESTER

Addison, Robert, Esq., Surgeon.
Barton, — Esq., Surgeon.
Braid, James, Esq., Surgeon.
Bamber, R. P. Esq., Surgeon.
Birks, Edward, B. Esq., Surgeon.
Boyer, Robert, Esq., Surgeon.
Carew, J. D. Esq., Surgeon.
Cooper, W.N.S., Esq., Surgeon.
Crowther, Robert, Esq., Surgeon.
Dadley, Henry, Esq., Surgeon.
Dispensary, Library of the
Fawdington, — Esq., Surgeon.
Flack, J. Esq., Surgeon.
Gardom, George, Esq., Surgeon.
Grearis, George, Esq., Surgeon.
Guest, W. E. Esq., Surgeon.
Hancock, James, Esq., Surgeon.
Harrison, John, G. Esq., Surgeon.
Hordson, Thomas, Esq., Surgeon.
Holroyde, E. Esq., Surgeon.
Jordan, Joseph, Esq., Surgeon.
Johnston, Roberts, Esq., Surgeon.
Joynson, T. N. Esq., Surgeon.
Ker, W. Henry, Esq., Surgeon.
Lees, Thomas, Esq., Surgeon.
Lesse, John, Esq., Surgeon.
Lignum, Edward, Esq., Surgeon.
Lacy, E. Esq., Surgeon.
Lynch, P. Jun., Esq., Surgeon.
Macgowan, Thomas, Esq., Surgeon.
Mann, Robert, Esq., Surgeon.
Murray, Dr.
Mellor, John, Esq., Surgeon.
Noble, Daniel, Esq., Surgeon.
Ollier, Henry, Esq., Surgeon.
Owen, William, Esq., Surgeon.
Partington, James Edgar, Esq., Surgeon.
Radford, Thomas, Esq., Surgeon.
Ransome, L. T. Esq., Surgeon.
Roberts, Benjamin, Esq., Surgeon.
Russell, J. Esq., Surgeon.
Scholfield, R. Esq., Surgeon.
Stephens, John, Esq., Surgeon.
Thorp, Robert, Esq., Surgeon.
Thompstone, S. Jun. Esq., Surgeon.
Turner, — Esq., Surgeon.
White, William, Esq., Surgeon.
Whatton, W. R. Esq., Surgeon.
Wilson, William, Esq., Surgeon.
Wimm, William, Esq., Surgeon.
Windsor, John, Esq., Surgeon.
Wood, Thomas, Esq., Surgeon.

DUBLIN.

Armstrong, L. Esq., Surgeon, French Street.
Beatty, J. E. M.D., York Street.
Campbell, H. W., M.D., Lying-in-Hospital.
Clarke, Patrick Dillen, M.D., South Anne Street.
Darley, Henry, M.D., Kildare Street.
Doyle, Thomas, M.D., Talbot Street.
Fleming, — Esq., Surgeon, Talbot Street.
Flood, Valentine, M.D., 19, Blessington Street.
Gawley, E. Esq., Surgeon, Swinford, County Mayo.
Hansard, James, J. Esq., Surgeon.
Hara, C. W. Esq., Surgeon, Ccombe Lying-in-Hospital.
Hayden, G. J. Esq., Surgeon, Harcourt Street.
Hughes, Charles, Esq., Surgeon, Rutland Square.
Ieland, R. S. Esq., Surgeon.
Kennedy, E., M.D., Lying-in-Hospital.
Lebatt, M.D., Merrion Row.
Mannsell, Henry, M.D., York Street.
Mc. Keever, Thomas, M.D., Marlbrough Street
Montgomery, W. F., M.D., Molesworth Street.
Peebles, John, M.D., Dorset Street.
Shanahan, Bryan Richard, M.D., Lying-in-Hospital, Townsend Street.
Young, A. K. Esq., Surgeon, 50, Abbey Street.
Young, E. Esq., Surgeon, Upper Ormond Quay.

BOLTON.

Binden, — Esq., Surgeon.
Denham, Joseph, Esq., Surgeon.
Haworth, Thomas, Esq. Surgeon.
Knott, Edwin, Esq., Surgeon.
Pendlebury, James, Esq., Surgeon.
Robinson, J. M. Esq., Surgeon.

WIGAN

Daglish, — Esq. Surgeon.
Hanott, W. Esq., Surgeon.
Shaw, — Esq., Surgeon.

BIRMINGHAM.

Aaron, Isaac, Esq., Surgeon.
Baynham, J. M. Esq., Surgeon.
Cox, Edward, T. Esq., Surgeon.
Chavasse, P. H. Esq., Surgeon.
Hall, G. Esq., Surgeon.
Hobson, Benjamin, Esq., Surgeon, 142, Snow Hill.
Ingleby, John, Esq., Surgeon.
Jukes, Alfred, Esq., Surgeon.
Ledsam, J. J. Esq., Surgeon.
Palmer, F. S. Esq., Surgeon, 16, Colmore Row.
Porter, J. W. Esq., Surgeon.
Swinson, E. S. Esq., Surgeon, Cannon Hill.
Taylor, Thomas, Esq., Surgeon.
Vaughton, Thomas, Esq., Surgeon.
Watts, J. W. Esq., Surgeon.
Wright, John, Esq., Surgeon.
Wilcox, — Esq., Surgeon.

WOLVERHAMPTON.

Coleman, Edward, H. Esq., Surgeon.
Gatis, James, Esq., Surgeon.
Bodger, W. J. Esq., Surgeon.

BILSTON.

Best, Norris, Esq., Surgeon.
Cooper, R. S. Esq., Surgeon.
Dickenson, F. W., Esq., Surgeon.

COVENTRY.

Bicknell, Edward, Esq., Surgeon.
Barton, W. Ashton, Esq., Surgeon.
Smith, John, Esq., Surgeon.

DERBY.

Borough, Charles, Esq., Surgeon.
Wright, John, Esq., Surgeon to the Derbyshire General Infirmary.
Webster, John, Esq., Surgeon.

SHEFFIELD.

Boultbree, Henry, Esq., F.L.S.
Clark, G. W. Esq., Surgeon.
Ernest, Robert, M.D. Sheffield General Infirmary.
Favell, W., Esq., Surgeon.
Gillott, Edward, Esq., Surgeon.
Hall, John, Esq., Surgeon.
Jackson, William, Esq., Surgeon.
Jackson, Henry, Esq., Surgeon.
Martin, Edward, Esq., Surgeon.
Overend, Wilson, Esq., Surgeon to the Sheffield General Infirmary.
Ray, James, Esq., Surgeon.
Turten, George, Esq., Surgeon.
Taylor, R. S. Esq., Surgeon.
Thompson, Corden, M.D.
Wild, James, Esq., Surgeon.
Wood, H. Esq., Surgeon.

WAKEFIELD.

Bennett, John, Esq., Surgeon.
Dawson, William, Esq., Surgeon.
Statter, S. Esq., Surgeon.

HUDDERSFIELD.

Bradshaw, J. Taylor, Esq., Surgeon, New Street.
Tatham, Thomas, Robert, Esq., Surgeon.
Huddersfield, The Medical Library of.

LEEDS.

Bulmer, George, Esq., Surgeon, Assembly Court.
Cass, W. R. Esq., Surgeon, 11, Albion Street.
Garlick, John, Esq., Surgeon, 21, Park Row.
Hare, S. Esq., Surgeon, 26, East Parade.
Hey and Son, Messrs. Surgeons, Albion Place.
Hay, William, Esq., Surgeon, 23, Park Square.
Horton, R. H. Esq., Surgeon, Holbeck.
Nunnerly, — Esq., Surgeon, Wellington Street.
Price, W. Esq., Surgeon, Park Row.
Pullan, Richard, Esq., Surgeon, Hunslet.
Smith, Samuel, Esq., Surgeon, Park Row.
Teale, Thomas Ridge, Esq., Surgeon, 22, Albion Street.
Taylor, J. Mackenzie, Esq., Surgeon.
Ward, — Esq., Surgeon, 41, Kirkgate.

STOCKPORT.

Brooke, John, Esq., Surgeon.
Cheetham, Thomas, Esq., Surgeon, Hill Gate.
Cheetham, S. H. Esq., Surgeon.
Douns, George, Esq., Surgeon.
Flint, Richard, Esq., Surgeon.
Medd, John, Esq., Surgeon.
Norris, H. Esq., Surgeon.
Rayner, J. W. Esq., Surgeon.
Taylor, J. Esq., Surgeon.
Welhamtour, Jun. Esq., Surgeon.

ADDITIONAL SUBSCRIBERS.

BATH.

Barnard, J. F. Esq. Surgeon
Barter, Thomas, Esq. Surgeon
Browne, E. Esq. Surgeon
Bush, George F. Esq. Surgeon
Chilton, Joseph, Esq. Surgeon
Church, W. Esq. Surgeon
Field, Frederick, Esq. Surgeon
Fryer, W. H. Esq. Surgeon
George, R. F. Esq. Surgeon
Greville, Dr.
Goldstone, Robert, Esq
Hicks, Charles, Esq. Surgeon
Hill, Edward, Esq. Surgeon
Howell, John W. Esq. Surgeon
Hunt, E. Esq. Surgeon
King, George, Esq. Surgeon
Kilvert, John, Esq. Surgeon
Massy, Hugh, Esq. Surgeon
Norman, George, Esq. Surgeon
Skeate, E. Esq. Surgeon
Soden, J. S. Esq. Surgeon
Spender, J. C. Esq. Surgeon
Slater, Charles Phillot, Esq. Surgeon
Spry, George, Esq. Surgeon
Wright, Edward, Esq. Surgeon
White, John, Esq. Surgeon

BRISTOL.

Bell, John, Esq. Surgeon
Blake, John, Esq. Surgeon
Brady, ——, Esq. Surgeon
Bryant, Samuel, Esq. Surgeon
Burroughs, S. B. Esq. Surgeon. Mall, Clifton
Chandler, John Moss, Esq. Surgeon
Frankis, B. F. Esq. Surgeon. 72, Stokes Croft
Fryer, Thomas, Esq. Surgeon. 52, Radcliff Hill
Goldney, S. Esq. Surgeon. Clifton Dispensary
Humpage, E. Esq. Surgeon. 12, King Square
James, H. G. Esq. Surgeon
Kelson, Joseph James, Esq. R.C.S. Surgeon
Leonard, Isaac, Esq. Surgeon
Lansdown, J. G. Esq. Surgeon. St. James Barton
Maurice, W. Esq. Surgeon
Olliver, A. Esq. Surgeon
Rogers, George, Esq. Surgeon
Sweeyne, H. Esq. Surgeon
Searle, J. Clarke, Esq. Surgeon. 14, College-street
Stanton, J. Esq. Surgeon. Dowry Square, Clifton
Wilson, John Grant, Esq, Surgeon. 17, Bridge-st.

GLOUCESTER.

Bedwell, J. R. Esq. Surgeon. Barton-street
Carden, H. D. Esq. Surgeon
Clutterbuck, Charles, Esq. Surgeon. Eastgate-street
Hicks, T. Esq. Surgeon. College Green
Parsons, George, Esq. Surgeon. College Green
Playne, George, Esq. Surgeon
Spencer, J. H. F. M.D. Albion House
Wilton, John W. Esq. Surgeon

CHELTENHAM.

Agg, Thomas, Esq. Surgeon. Portland-street
Cooke, C. J. Esq. Surgeon
Eves, Augustus, Esq. Surgeon to the Casualty Hospital
Fortnom, James, Esq. Surgeon
Murly, S. H. Esq. Surgeon
Newman, R. Esq. Surgeon
Whitmore, W. Esq. Surgeon. 49, St. George's-place

Hammond, T. M. Esq. Surgeon. Brixton, Surrey
Denbigh, W. Esq. B. M. Newington
Bowen, B. Esq. Surgeon. Harrow
Hewlett, Thomas, Esq. Surgeon. Harrow
Hickman, Charles, Esq. Surgeon. Kentish Town
Blackstone, Joseph, Esq. Surgeon. High-street, Camden Town
Bland, Cornelius, Esq. Surgeon 5, Arbour-terrace, Commercial Road.
Pratt, John, Esq. Surgeon. 48, Upper Baker-street, Regent's Park
Price, Allen, Foord, Esq. Surgeon. Prospect-place, Deptford
Mark, James, Esq. Chemist, &c. Broadway, Deptford
Coale, John, Esq. Surgeon. St. Albans
Rayner, W. Esq. Surgeon. Uxbridge
Johnson, Robert, Esq. Surgeon. Bromley, Mddx.
Wallace, John Andrew, Esq. Surgeon. Bow-road, Middlesex.
Bottomley, George, Esq. Surgeon. Croydon
Lashmar, Charles, Esq. Surgeon. Croydon

Messeena, J. N. Esq. Surgeon. 73, Poplar
Bain, William P. M.D. Blackwall
Jago, F. R. Esq. Surgeon. Hammersmith
Simoëns, J. Esq. Surgeon. Twickenham
Paul, Dr. Rickmansworth
Crowdy, C. W. Esq. Surgeon. Brixton Hill
Ward, F. Esq. Surgeon. Balham Hill, Surrey
Bainbridge, W. Esq. Surgeon. Upper Tooting.
Drummond, George, Esq. Surgeon. Croydon.
Coates, H. Esq. Surgeon. Elizabeth-terrace, New Cross
Sankey, Edward, Esq. Surgeon. 5, Thurow-place, Hackney Road
Evans, T. J. Esq. Surgeon. 5, James's-place, Hackney Road
Ryan, John, Esq. Surgeon. 3, High-street, Shoreditch
West, George, Esq. Surgeon. 9, High-street, Shoreditch
Vandenburgh, A. S. Esq. Surgeon. Bethnal Green Road
Moore, Edward, Esq. Surgeon, 49, Bethnal Green Road
Pearce, Samuel, Esq. Surgeon. Bethnal Green Road
Franks, G. Esq. Surgeon. 90, Blackfriars-road
Ward, John Rodney, Esq. B.M. Leyden, Old Kent Road
Richardson, William, Esq. Surgeon. Bayswater
Owen, Jeremiah, Esq. Surgeon. Stockwell-common
Smith, Joseph, Esq. Surgeon. Clapham Road-place
Bellamy, G. L. Esq. Surgeon. 386, Oxford-street
Smith, W. Esq. Surgeon. 21, Dorset-street, Portman-square
Green, H. Esq. Surgeon. 3, Tavistock-square.
Morries, J. D., M.D. F.R.S.E. Sackville-street
Warren, H. Esq. Surgeon. Gravesend
Richards, G. B. Esq. Surgeon. Gravesend
Knight, W. B. Esq. Surgeon. Folkstone
Major, James, Esq. Surgeon. Folkstone
Bell, W. Esq. Surgeon. Rochester
Ponder, W. Esq. Surgeon. Chatham
Edge, P. Hulme, Surgeon. Manchester
Cheetham, H. Esq. Surgeon. Ashton
Oldham, Robert, Esq. Surgeon. Ashton
Kay, Samuel, Esq. Surgeon. Ashton
Rawntree, J. Esq. Surgeon. Oldham
Morley, James, Esq. Surgeon. Oldham
Morley, George, Esq. Surgeon. Leeds
Longden, Fred. Esq. Surgeon. Sheffield
Shearman, E. James, Esq. Surgeon. Rotherham
Wilkinson, Henry, Esq. Surgeon. Rotherham
Robinson, J. Esq. Surgeon. Rotherham
Morey, J. E. Esq. Surgeon. Doncaster
Storrs, Robert, Esq. Surgeon. Doncaster
Rickard, J. Esq. Surgeon. Doncaster
Hall, G. Esq. Surgeon. Birmingham
Snowden, G. S. Esq. Surgeon. Ramsgate
Snowden, H. O. Esq. Surgeon. Ramsgate
Rutley, G. E. Esq. Surgeon. Dover
Sibbit, E. Esq. Surgeon. Dover
Coleman, T. Esq. Surgeon. Dover
Waddington, J. Esq. Surgeon. Margate
Neame, J. Esq. Surgeon. Margate
Hoffman, and Son, Messrs. Surgeons. Margate
Hunter, George Yeates, Esq. Surgeon. Margate
Price, ——, Esq. Surgeon. Margate
Havell, C. Esq. Surgeon. Canterbury
Major, D. B. Esq. Surgeon. Canterbury
Bray, F. R. Esq. Surgeon. 89, Mary-street, Hampstead Road

HULL.

Casson, Richard, Esq. Surgeon
Craven, Robert, Esp. Surgeon
Fielding, G. H. Esq. Surgeon
Fowler, N. Esq. Surgeon
Hardey, Robert, Esq. Surgeon
Lowther, G. W. Esq. Surgeon
Sleight, Robert, Esq. Surgeon
Sharpe, Richard, Esq. Surgeon
West, Charles Turner, Esq. Surgeon
Brereton, Charles, Esq. Surgeon. Beverly

HALIFAX.

Holroyd, James, Esq. Surgeon
Hodgson, John, Esq. Surgeon
Smith, Solomon, Esq. Surgeon
Suttliffe, Joshua, Esq. F.L.S. Surgeon

BRADFORD.

Illingworth, J. A. Esq. Surgeon
Kirby, Robert, Esq. Surgeon
Ramsbothom, John H. Esq. Surgeon
Brook, Lionel John, Esq. Surgeon. Pontefract

YORK.

Allen, James, Esq. Surgeon
Allen, E. Thomas, Esq. Surgeon. 4, Spence Gate
Binns, Abraham, Esq. Surgeon
Coates, Amos, Esq. Surgeon
Champney, George, Esq. Surgeon
Dodsworth, Benjamin, Esq. Surgeon
Hey, Richard, Esq. Surgeon
Hopps, John, Esq. Surgeon
Hopps, George, Esq. Surgeon. Red House
Hope, Frederick, Esq. Surgeon
Husband, W. M.D.
Marshall, William, Esq. Surgeon
Simpson, Dr.

Walker, Thomas K. L. Esq. Surgeon
Wisker, Thomas R. Esq. Surgeon

THIRSK.

Lambert, William, Esq. Surgeon
Wilson, E. C. Esq. Surgeon

DURHAM.

Balfour, William, Esq. Surgeon
Green, William, Esq. Surgeon
Hepple, William, Esq. Surgeon

SUNDERLAND.

Embleton, C. C. Esq. Surgeon. 10, Church-street
Gregory, R. Esq. Surgeon
Mordey, W. Esq. Surgeon
Oliver, William, Esq. Surgeon
Torbock, Thomas Reddish, Esq. Surgeon
Thompson, H. Esq. Surgeon
Cook, John, Esq. Surgeon. Church-street
Harrison, J. G. Esq. Surgeon. Villiers-street, Bishop Wearmouth
Happer, Thomas, M.D. Monkwearmouth Shore
White, Thomas, Esq. Surgeon. Ditto
Ward, John, Esq. Surgeon. 5, Church-street
Swan, G. Esq. Surgeon. Church-street, Monkwearmouth

NEWCASTLE.

Alexander, J. S., M.D.
Brady, Henry, Esq. Surgeon. High-street, Gateshead
Bennett, Francis, Esq. Surgeon. Gateshead
Carter, Charles T. Esq. Surgeon
Downie, George, Esq. Surgeon. Bigg Market
Edgcome, James, Esq. Surgeon
Hardcastle, William, Esq. Surgeon. Westgate-street
Henzel, C. R. Esq. Surgeon 81, Percy-street
Liddell, John, Esq. Surgeon
Morrison, William, Esq. Surgeon
Marshall, John, Esq. Surgeon. Northumberland-street
Preston, William C. Esq. Surgeon
Tulloch, Benjamin, Esq. Surgeon. New Bridge-street

NORTH SHIELDS.

Bramwell, W. Esq. Surgeon
Stephens, T. Esq. Surgeon. Saville-street
Lietch, D. R., M.D. Tynemouth
Bowlby, H. Esq. Surgeon. South Shields
Coward, William, Esq. Surgeon. Ditto
Emery, J. Esq. Surgeon. Ditto
Lawrence, Samuel, Esq. Surgeon. Ditto
Ridley, R. B. Esq. Surgeon Ditto
Trotter, Charles, Esq. Surgeon. Stockton
Ripley, John, Esq. Surgeon. Whitby
Taylerson, John, Esq. Surgeon. Whitby.

Cole, William, Esq. Surgeon. Pickering
Birdsill, ——, Esq. Surgeon. Ditto
Dightin, Messrs. W. B. and C. Surgeons. Northallerton
Harper, A. E., M.D. Darlington
Macfarlan, Donald, M.D. Ditto
Jackson, Thomas Hayes, M.D. Ditto
Haslewood, W., M.D. Ditto
Turner, William, Esq. Surgeon. Newcastle
Bell, David, M.D. Carlisle
Oliver, Richard, Esq. Surgeon. Carlisle
Meddle, Thomas, Esq. Surgeon. Dalston, near Carlisle
James Richard, M.D. Carlisle
Longmire, William, Esq. Surgeon. Kendal
Havens, Robert, Esq. Surgeon and Apothecary. Kendal
Gough, Thomas, Esq. Surgeon, &c. Kendal
Allen, Thomas, Esq. Surgeon. Nottingham
Davidson, Robert, Esq. Surgeon. Ditto
Chicken, Thomas, Esq. Surgeon. Ditto
Holstenholme, James, Esq. Surgeon. Ditto
Sanders, Edward, Esq. Surgeon. Maidstone
French, Edward, Esq. Surgeon. Ditto

TUNBRIDGE WELLS, &c.

Hargraves, Isaac, Esq. Surgeon. Tunbridge Wells
Trustram, Charles, Esq. Surgeon. Ditto
Cornwall, James, Esq. Surgeon Ditto
Sopwith, Henry Lindsell, Esq. Surgeon. Ditto
Wisden, William, Esq. Surgeon. Ditto
Clouter, ——, Esq. Surgeon. Calverly-place, Tunbridge Wells
West, W. J. Esq. Surgeon. Tunbridge.
Savery, John, Esq. Surgeon. Hastings
Duke, Walter, Esq. Surgeon. Ditto
Ranking, Robert, Esq. Surgeon. Ditto
Jones, George, Esq. Surgeon. St. Leonard's, Hastings.

BRIGHTON, LEWES, &c.

Green, ——, Esq. Surgeon
Winter, J. B. Esq. Surgeon. 24, Cannon-place, Brighton
Dix, Edward, Esq. Surgeon. 7, Old Steine, Brighton
Blaker, Henry, Esq. Surgeon. Brighton
Rugg, Richard, Esq. Surgeon. Ditto
Paine, J. Esq. Surgeon. Grand Junction Parade, Brighton
Scruse, George, Esq. Surgeon. Lewes
Chatfield, John S. Esq. Surgeon. Ditto

Moon, Henry, Esq. Surgeon. Lewes
Harris, William, Esq. Surgeon, Worthing
Marter, E. William, Esq. Surgeon. Ditto
Fletcher and Wardropers, Messrs. Surgeons. Arundel
Hills, George, Esq. Surgeon. Arundel
Byass, Richard, Esq. Surgeon. Ditto
Caffin, William, Esq. Surgeon. Chichester
Knott, John, Esq. Surgeon. Ditto
Gruggen, Messrs. Surgeons. Ditto

HANTS.

White, Richard, Esq. Surgeon. Portsmouth
Hellard, George B. Esq. Surgeon. Ditto
Scott, E. J., M.D. Portsea
Tate, John J. M.D. Portsea
Batchelor, Richard, Esq. Surgeon. Southsea
Cooper, Thomas, Esq. Surgeon. Portsea
Garington, ——, Esq. Surgeon. Ditto
Engledue, M. C., M.D. Southsea
Rundle, W. S. Esq. Surgeon. Gosport
Williams, ——, Esq. Surgeon. Ditto
Jenkins, John, Esq. Surgeon. Ditto
Stamland, James, Esq. Surgeon. Fareham
Andrews, Edward, Esq. Surgeon. Titchfield
Banks, W. H. Esq. Surgeon. Ryde, Isle of Wight
Pedder, George, Esq. Surgeon. Ditto
Daverds, J. Cowes, Isle of Wight
Corfe, George, B. Esq. Surgeon. Southampton
Caldwell, Edward, Esq. Surgeon. Mellbrook, Southampton
Lyford, Henry G. Winchester
Marter, ——, Esq. Surgeon. Poole
West, John, Esq. Surgeon. Ditto
Rowe, John Reynolds, Esq. Surgeon. Wimborne, Dorset
Hawes, Robert, Esq. Surgeon. Ditto
Place, G. A. Esq. Surgeon. Ditto
Knott, William. Ditto
Welch, James H. Esq. Surgeon. Christchurch, Hants
Scriven, ——, Esq. Surgeon. Weymouth, Dorset
Tucker, W. Esq. Surgeon. Bridport, Ditto
Workman, Thomas, Esq. Surgeon. Basingstoke
Woodward, Thomas C. Esq. Surgeon. Andover
Smith, John, Esq. Surgeon. Weyhill

EXETER, &c.

Ottley, Drewry, Esq. Surgeon. 3, Southernhay, Exeter
Besley, W. H. Esq. Surgeon. 40, Ditto
Harris, John, Esq. Surgeon to the Devon and Exeter Hospitals. Exeter
Couper, Thomas, Esq. Surgeon. 9, Northernhay, Exeter
Parker, J. W. Esq. Surgeon. The Close, Exeter
Luscombe, S. Esq. Surgeon to the Exeter Hospital
Edye, John, Esq. Surgeon. Exeter
Webb, Charles H. Esq. Surgeon. Ditto
Bennett, James, Esq. Surgeon. Bartholomew Yard, Exeter
Warren, W. B. Esq. Surgeon. Exeter
Waters, A. Esq. Surgeon. Exmouth
Kane, William, Esq. Surgeon. Exmouth
Black, Glass, Esq. Surgeon. Ditto
Gervis, George, Esq. Surgeon. Teignmouth
Cartwright, William. Esq. Surgeon. Teignmouth
Harvey, J. B. Esq. Surgeon. Ditto
Holman, W. B. Esq. Surgeon. Crediton
Hugo, Thomas, Esq. Surgeon. Ditto
Hainworth, Charles, Esq. Surgeon. Ditto
Gabriel, William, Esq. Surgeon. Cullompton
Maunder, Haine, W. Esq. Surgeon. Ditto
Reed, W. H. Esq. Surgeon. Tiverton
The Medical Book Club. Ditto
Davy, Thomas, Esq. Surgeon. Ottery, St. Mary
Wreford, Samuel, Esq. Surgeon. Ditto
Tinney, W. S. Esq. Surgeon. Ditto
Goss, James, Esq. Surgeon. Dawlish
Bowden, R. B. Esq. Surgeon. Ditto
Scarbrough, John L. Esq. Surgeon. Shaldon
Jolley, Rowe William, Esq. Surgeon. Torquay
Cartwright, Henry, M.R.C.S. Ditto
Blackaller, Bartlett J. M.R.C.S. Ditto
Tanner, M. C., M.R.C.S. Ditto
Bailey, W. L. Esq. Surgeon. Teignmouth
Hunter, Thomas, Esq. Surgeon. Budleigh Salterton
Vowell, M. Esq. Surgeon. Ditto
Goomidge, J. J. Esq. Surgeon. Paington

PLYMOUTH, DEVONPORT, &c.

Fortescue, Herbert, Esq. Surgeon. 32, George-street, Plymouth
Andrews, John Henry, Esq. Surgeon. Plymouth
Fuge, William, Esq. Surgeon. George-terrace, Plymouth
Denton, ——, Esq. Surgeon. Plymouth
Rattenbury, William, Esq. Surgeon. 10, George-place, Plymouth
Stewart, T. H. Esq. Surgeon. Princess-square, Plymouth
Taylor, Charles, Esq. Surgeon. Sussex-place, Plymouth
Welch, M. Esq. Surgeon. St. Aubyn-street, Devonport
Tripe, Cornelius, Esq. Surgeon. Ker-st. Devonport
Watson, R. Esq. Surgeon. St. Aubyn-street, Devonport
Robertson, ——, Esq. Surgeon. Union-street, Stonehouse

TABLES I AND II.

ILLUSTRATING THE DEVELOPMENT OF THE OVUM AND FŒTUS.

PRELIMINARY OBSERVATIONS AND REMARKS.

To investigate the subject of conception would be foreign to a purely practical work on obstetrics; but the subject of reproduction of the human species is so deeply interesting, that we think a *brief outline* of the modern physiological theory of impregnation, and the progressive growth of the fœtus to maturity, will not be misplaced, nor prove uninteresting to many of our readers. The works of Blumenbach, Ryan, Velpeau, Spallanzani, and many others, may be consulted by those who wish to investigate minutely this interesting subject. That conception should follow sexual congress, it appears essential on the part of the female that the ovaria contain some of their vesicles in a healthy condition; on the part of the male, that the testes be in a healthy state. The male semen being transmitted through the uterus, and by the tubæ Fallopianæ to the ovaries, stimulates one of the vesiculæ Graafianæ, which contains the ovum or germ.*

When fecundation takes place, the fimbriated extremity of one of the tubes expands and embraces the ovary, the impregnated ovulum bursts and escapes, with its external envelope, together with a small portion of the liquid peculiar to the Graafian vesicle, and thus it passes into the Fallopian tube, along which it is conveyed into the uterus. The precise time at which the ovulum enters the womb after fecundation is not known. Although it is generally supposed to be about a week or two in its journey from the ovaria to the cavity of the uterus, it appears probable that the time may be much shorter. It is said to have been detected in the uterus so early as the eighth day, by Home, Walker, and others. Dr. Granville states that he saw a perfect ovulum ejected from the womb fourteen days after a single sexual congress, which had taken place the day after the cessation of the menses.†

The ovulum contains the primordial parts of the fœtus, though on its first entrance into the uterus they can scarcely be detected, on account of their minuteness and transparency. It has two membranous coverings, having a gelatinous substance interposed between them, the chorion and amnion‡, the former being the outer, the latter the inner covering: these, with a fluid (liquor amnii) secreted by the amnion, constitute the ovum.

* An ovulum exists in each of the vesicles of Graaf, which the ovarium contains in women who have reached maturity.

† Granville's Graphic Illustrations of Abortions, &c.

‡ Velpeau says this membrane does not exist before the twelfth day.

From the moment of conception, the internal surface of the uterus acquires an increased action, and secretes a delicate, lacerable, and cribri-form membrane (decidua) which may be divided into two laminæ, the one in contact with the uterus, the other with the ovum.

According to Prevost, Baer, and Dumas, the blood is formed independently of the heart. The arteries, veins, and heart, are formed successively. The development of the nervous system commences from the circumference of the embryo, proceeding towards the centre; hence the lateral nerves of the head, trunk, and pelvis, are developed, whilst the cerebro-spinal system is yet in a liquid state.

Of the digestive organs, the intestinal canal is the first to appear: it consists, during the first days of its formation, of a curved open tube, extending the whole length of the embryo, placed before the vertebral column. It communicates with the vesicula umbilicalis.* It extends and expands, and its superior extremity, the mouth, opens about the fourth or fifth week; the inferior extremity, the anus, opens about the seventh: the outlines of the stomach are visible about the ninth week.† Before the seventh day we cannot perceive any thing in the uterus which indicates the presence of a new being. On the tenth day a semi-transparent, greyish flake may be perceived, of an indeterminate form.‡ From the twelfth to the thirteenth day, the presence of a vesicle, the size of a pea, containing a thick fluid, in the middle of which swims an opaque spot, presents the first lineaments of the new being that bears the name of *embryo*: it is enveloped by the membranes *chorion* and *amnion;* the weight is equal to one grain.

The embryo may be perceived with the naked eye at the fourteenth day after conception (vide fig. 1, 2, and 3, Table I). On the twenty-first day, it resembles, in form, a large ant or lettuce seed (Burton), its length is from 4 to 5 lines, and weight from three to four grains: at this period the different parts of the fœtus present a little more consistence, and those which are to form bones pass into a cartilaginous state (vide fig. 4 and 5). On the thirtieth day it is about the size of a horse fly, and resembles a worm bent together; at this period we may perceive, although faintly, some traits of the principal organs; the head appears as large as the rest of the body; there is also, in the former, black dots marking the spots for the eyes; its weight is from nine to ten grains, and its length from ten to twelve lines (vide fig. 6 & 7). At the period of forty-five days, the development of the fœtus in various parts becomes well determined, the superior and inferior extremities appear under the form of globular tubercles, the former preceding the latter by a short period of time; the body lengthens, but keeps the ovoid figure; blackish spots indicate the presence of the eyes, the mouth, and the nose; weight one drachm, length one inch.§ At from sixty to seventy days, the various parts of the fœtus become progressively developed, the black spots which represent the eyes enlarge, the eyelids are visible, the nose becomes a little prominent, the mouth enlarges, the external concha of the ear becomes distinctly delineated, the brain is soft and pulpy, the neck is defined, and the heart is fully developed. At ninety days, three months, the development of all the essential parts of the fœtus becomes perfectly defined;

* Meckel, Wolf, Oken. † Velpeau.

‡ The precise time at which the ovulum enters the womb is not exactly known.

§ The measure and weight vary more or less during every period of pregnancy.

the eyelids are distinctly delineated, but closely shut: the lips are very distinct and drawn together, the organs of generation are exceedingly prominent in the male as well as in the female, the penis in the former and the clitoris in the latter are remarkably elongated.* The heart beats with force, and the larger vessels carry red blood; the fingers and toes are defined, the muscular system begins to characterise itself: weight, about two ounces and a half; length, from four to five inches.

At one hundred and twenty days, or four months, the development of the fœtus in all its parts is remarkably increased, the brain and spinal marrow acquire more consistence, the muscular system is distinct, and here and there we meet with some cellular tissue. The abdomen is fully covered in, and the intestines are no longer visible; in the latter, a little meconium collects; weight, seven to eight ounces.

At one hundred and fifty days, or five months, the development of every part of the fœtus is very considerably increased; the lungs enlarge, and are susceptible of experiencing a certain dilatation. The cutaneous envelope acquires at this period much consistence, the epidermis is stronger and thicker, the situation of the nails are determined, and the meconium is more abundant and lower in the intestines; length, eight or ten inches; weight, fourteen or sixteen ounces; intellectual faculties void.

At one hundred and eighty days, six months, the fœtus is increased in its shape and formation, the nails are marked, a little down appears on the head, the first indication of hair; the cellular tissue is abundant, and a little adipose substance is deposited in its cells: length, from nine to ten or twelve inches; weight, from one and a half to two pounds; intellectual functions void.

At two hundred and ten days, seven months, every part of the fœtus has progressively increased in volume, size, and weight; the nails are formed, the hair appears, the testicles descend, the meconium increases in the large intestines, and the bony system is nearly complete: length, from twelve to fourteen inches; weight, two and a half to three pounds; intellectual functions void.

From the seventh to the ninth month, the successive development of the fœtus is limited to mere weight and size.† At the period of nine months, the cutaneous, arterial, and capillary systems become very active, the skin appears coloured, and the perspiration is established. The intellectual functions void; but the animal functions are well developed, especially that of taste; the child is sensible of pain, of hunger, and of heat and cold: weight, from five to eight pounds; length, from eighteen to twenty-two inches.

* The difference of sexes may be known from other circumstances besides the sexual organs, such as the particular formation of the head, extremities, thorax, abdomen, and dorsal spine.

† Although the growth of the various parts of the fœtus bears a proportion to the general development of its body, that part of the body which is below the navel measures in length less than the part above it, until the full period of gestation, when the navel marks the precise centre of the fœtus. This circumstance will assist us in forming an opinion respecting the age of any fœtus. (Foderé, Chaussier.)

DESCRIPTION OF TABLES I AND II.

Fig. 1.—An ovum from eight to twelve days, of the natural size. The flocculent surface of the chorion is readily distinguished, and occupies the whole of the circumference.

Fig. 2.—An ovum of about twelve days, laid open.

Fig. 3.—A magnified view of the same ovum.

a a.a.—The villous surface of the chorion.

b.b.—Reticulated magma or the allantois,* placed between the chorion, *c.c.c.* and the amnion *g*.

d. The embryo. *e.* The umbilical or intestinal vesicle.†

f. The umbilical cord.‡

Fig. 4.—An ovum of about twenty-one days, laid open.

a.a.a. The chorion spread open and retained by the pins.

b. The amnion open, leaving the embryo to be seen completely bare.

Fig. 5.—The same ovum (fig. 4) magnified.

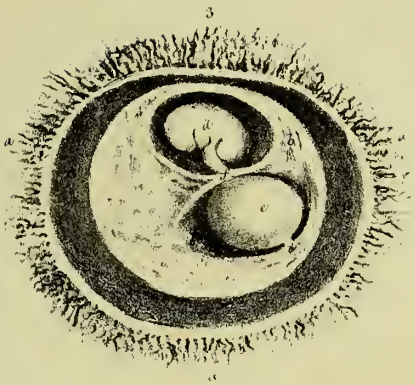
a. The head of the embryo. B. The eyes. *c.* The mouth

* The allantois is a vessel or sac which projects from the lower end of the anal intestines; it appears about the fourth week, and by the sixth it has nearly disappeared; it communicates with the bladder by the urachus (a canal) which is found impervious after the first three or four months of gestation. (Meckel, Dutrochet, Baer, and others.)

† The umbilical vesicle measures about half an inch in length; it is situated immediately against the anterior surface of the embryo, but gets further from it at the end of the first month, when it is found on the outside of the sheath of the cord. It is composed of a granular membrane; it contains a whitish liquid, which gradually becomes thicker, and ultimately hardened. The vesicle withers and becomes opaque; it receives the omphalo-mesenteric vessels. It disappears about the third month.

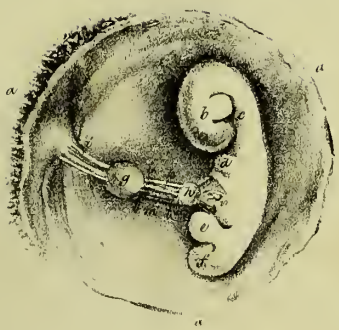
‡ The umbilical cord appears about the end of the third week, and then consists of a vein and two arteries, the urachus, a species of gelatine of a ropy nature, a portion of the intestinal canal, (larger in proportion as the embryo is younger,) the vesicula umbilicalis in part, and the omphalo-mesenteric vessels. The three last disappear after the third or fourth month of gestation.


6


3

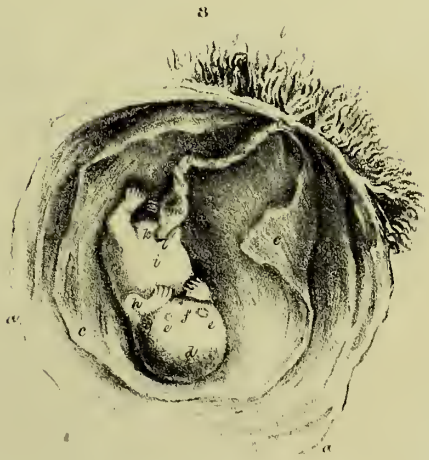

2


1


7


4


5


8


11


10


9

d. The neck. *e*. The superior or thoracic extremities.
f. The abdominal, or inferior extremities.
g. The extremity of the coccyx. *h.h*. The arch of the spine.
i. The region of the liver.
k. The pedicle of the umbilical vesicle. *l*. The vesicle.

Fig. 6. An ovum of the natural size, laid open, about twenty days old.
Fig. 7. A magnified view of fig. 6, *a.a.a*. The circumference of the chorion, with a portion of its flocculent surface, to be seen on one side.

b. The head of the embryo greatly bent forward.
c. The mouth already very visible.
d. The thoracic tubercles, or rudiments of the superior extremities.
c. The abdominal tubercles, or rudiments of the inferior extremities.
f. The point of the coccyx.
g. The remains of the vitelline liquor, contained in the umbilical vesicle, hardened and forming a tumour.
h. Remains of another small vesicle which was formed near the ring of the umbilicus.
ii. Umbilical vein. *e.e*. Umbilical arteries.
m.m. Omphalo-mesenteric vessels.*

Fig. 8. An ovum, of from five to six weeks, laid open.
a.a.a. The circumference of the chorion. *b.b*. Villosities of the placenta.
c.c.c. The amnion. *d*. Head of the embryo. *e.e*. The temples.
f. Root of the nose, or interval between the eyes. *g*. The right ear.
h. The superior extremities. *j*. The inferior or pelvic extremities.
i. The abdomen. *k*. Sexual organs.
b.b. The umbilical cord, already turned spiral.
m. The swelling containing the intestinal portion.

Fig. 9. A fœtus of the age of forty-five days.

* These vessels consist of an artery and vein, they accompany the cord as far as the navel, through which they pass into the abdomen. These vessels disappear as the vesicula umbilicalis becomes obliterated.

Fig. 10. A fœtus of the age of two months or sixty days.

Fig. 11. A fœtus of the age of three months, enclosed in the amnion.

Fig. 1. (Table II.) A fœtus of the age of four months.

Fig. 2. (Table II.) A fœtus of the age of five months, with the placenta and membranes. The chorion is laid open to exhibit the fœtus enveloped in the amnion. The amnion is seen attached to the centre of the internal surface of the placenta, through which the navel chord passes. The external surface of the placenta is seen covered by the chorion and decidua.



TABLE III.

ILLUSTRATING THE FEMALE ORGANS OF GENERATION.

A. The Mons Veneris.

B.B. The Labia externa, majora, vel pudendi.

C. The Perineum anticus.

The Mons Veneris is a prominence situated on the Symphysis Pubis, arising from each side of the groin, composed of common integuments, fat, fibrous and cellular substance, and numerous sebaceous follicles. Its breadth is about two inches, and covered with hair after puberty. The inferior part bifurcates to form the Labia externa.

The Labia externa take their rise from the termination of the mons veneris, and descend to the perineum anticus, where they unite and form the fourchette or frænum (marked D in the drawing). The points at which the Labia unite above and below are called *superior* and *inferior* commissures, and the fissure formed by the Labia is called the genital fissure, or sinus pudoris, vulva or pudendum. The Labia are composed of common integuments, cellular substance and fat, and are covered with hair after puberty. Their internal surfaces are smooth, of a pink colour, and supplied with numerous sebaceous and mucous follicles.*

The Labia are dense and in opposition before puberty; but become elongated, less dense, and bluish, after marriage.

The Labia are sometimes found united at birth. The surface of the Labia very frequently cohere, so as to close up the genital fissure, leaving only a small opening for the passage of the urine. This cohesion is not unfrequently caused by uncleanliness in those who are attacked with excoriation or ulceration.

On separating the *Labia externa*, the *Clitoris*, *&c.* are brought into view.

A. The *Clitoris*. B.B. The *Nymphæ*, or *Labia minora*. C. The *Hymen*. D. *Meatus urinarius*. E. The orifice of the Vagina.

The Clitoris is an elongated substance, about two inches in length, formed of two cavernous, spongy, vascular bodies. It has a round, free

* These follicles sometimes give rise to an acrid discharge, not unfrequently mistaken for gonorrhœa.

extremity, called its glans, which is enveloped by skin or prepuce, which terminates in the Labia minora. It resembles the male penis; it becomes erect during coition, and is the principal seat of voluptuousness. The Clitoris arises from the ischia-pubic branches, and is attached to the pubis by a suspensory ligament.

The Clitoris sometimes increases to the length of four or five inches. The Clitoris is sometimes the seat of cancer and cauliflower excrescence.

The *Nymphæ*, or *labia minora*, are two continuations from the prepuce of the clitoris and *labia externa*; they diverge and descend on either side to about the middle of the *labia externa*, where they terminate insensibly on the internal surface. They are formed of fine thin vascular and spongy tissue, and consist internally of adipose and cellular tissue; they are firm, and of a reddish colour.

The nymphæ in some persons are naturally elongated, and in some countries, as Hindostan, Persia, and Turkey, they produce so much inconvenience as to require extirpation. In the fœtus, and at birth, the *nymphæ* pass the *external labia;* in virgins, they are hidden within the *vulva;* but, in women who have had children, they become elongated, less firm, and lose their rosaceous colour.

Meatus urinarius, or orifice of the urethra, is a small round aperture, situated about an inch below the *clitoris*, and about one third of an inch above the entrance into the vagina; it is surrounded by small depressions called lacunæ.

The situation of the orifice of the urethra demands particular attention, on account of the introduction of the catheter. The best position for introducing the catheter, is for the patient to lie on her back with her knees separated and elevated. The operation will be best performed by the operator standing on the patient's right side, with the catheter, previously oiled, in his right hand, then to carry his left hand over the right thigh of the patient, and with the index finger to separate the labia and nymphæ, the finger must then be passed downward about an inch below the clitoris, till it arrives at the orifice of the urethra. The right hand, with the catheter, is to be carried under the patient's thigh, and the point of the instrument directed to the extremity of the index finger, when, with a little dexterity, it readily slips into the urethra. The relative positions of the parts are so much altered in cases of procidentia and inversio uteri, " that, although the catheter must be introduced and carried forwards to the pubes, with the point directed in the usual course, yet, when it has reached the symphysis, its handle must be so elevated towards the abdomen, that the extremity of the instrument should be directed towards the knees. Under other circumstances, such as the bladder being over the pubes, when the

abdomen is pendulous, the handle must be as much depressed, immediately after the point has cleared the symphysis pubis."* Previous to introducing the catheter, the stilette should be withdrawn, and a moistened bladder tied on the extremity of its handle, into which the urine may flow. This plan prevents the bed being wetted, which is an almost unavoidable circumstance, as the operation is commonly performed.

The *vagina* is the canal which extends from the genital fissure to the uterus, passing between the *bladder* and *rectum*. In the virgin state, it is about one inch in diameter, but much more capacious in married women, and those who have had children; it is capable of great contraction and dilatation. It is from three to five inches in length; the superior or upper part encircles the cervix uteri.

The vagina is lined by a mucous membrane, which affords a secretion which prevents adhesion of its surfaces. This secretion is increased in leucorrhœa.

Fig. 2.—On folding down the part marked D, the uterus, &c. are brought into view.

A. The fundus of the uterus. B.B. The round ligament, the left of which is seen passing through the ring of the external oblique muscle C, and terminating on the mons veneris. E. A portion of the small intestines. C. A portion of the external oblique muscle turned aside, to shew the uterus in its situation.

D.D. The iliac arteries, veins, and nerves.

The *uterus*.† This organ is situated between the bladder and rectum, it is destined for the reception of the fœtus. The form of the unimpregnated uterus is somewhat pyreform; when impregnated, its shape is oval. The uterus is divided into fundus, corpus, and cervix; the fundus is that portion which is above the insertion of the fallopian tubes; the corpus is the portion between the fundus and cervix, and the latter is the narrow portion below the corpus or body. The unimpregnated uterus‡ is about three inches in length, two inches in breadth at the fundus, and one inch at the cervix. The cavity of the uterus is somewhat triangular, and is lined by a continuation of the villous covering of the vagina. The substance of

* Conquest's Outlines.

† Fig. 1. Table IV, in the Obstetric Tables, represents the unimpregnated uterus and its appendages.

‡ See fig. 1. Table IV, Obstetric Tables.

the uterus is composed of muscular fibres, nerves, arteries, veins, and absorbents, connected by dense cellular structure. Its nerves are supplied from the meso-colic plexus, the sacral and great sciatic. Its arteries are four, two spermatic and two hypogastric : these vessels freely anastomose.

The *ovaries* or seminal glands of the woman, the secreting organs of the germ, are situated near the sides of the uterus, enclosed in the posterior fold of the broad ligament, are oblong, oval, about the size of a bean or almond, and of a yellow grey colour, and contain the ova, in number from eight to twenty. At puberty, the ovaries become developed and active, and, by sympathy, produce a series of changes in the uterus, mammæ, larynx, &c.

The uterine tubes, (Tubæ Fallopianæ), are two small canals, arising from the lateral angles of the fundus of the uterus, four or five inches long, and about the size of a goose-quill; they pass through the middle fold of the broad ligament.

Fig. 3.—On turning down fig. 2, the uterus is represented in situ. A. The uterus. *b.b.* The fallopian tubes, fimbriæ, and ovaries. C. The bladder. *d.* The rectum passing down behind the uterus. *e.e.* The round ligaments. *f.f.* The broad ligaments.

We must observe, that, to have this and the former view of the contents of the pelvis, (fig. 2), it is necessary that the pelvis be placed horizontally; otherwise, the uterus, &c. would appear to be placed somewhat too high.

TABLE IV.

ILLUSTRATING THE SIGNS OF THE DIFFERENT EPOCHS OF PREGNANCY.

Signs.—Pregnancy may be distinguished by presumptive or rational signs, and positive or sensible signs. The signs presumptive or rational, are those which cause a belief or supposition that pregnancy exists. Although numerous, these signs are very uncertain, and we can only form conjectures by their presence. Among these signs, are those which affect the entire economy: these are the general presumptive signs. There are others which manifest their presence on a point far removed from the economy: these are the particular or local signs. The first are drawn from all the changes that a woman experiences in the regular and natural functions, in her habits, her longings, and her particular fancies, the effects of which are marked by the paleness of the face and a certain alteration in the features which belongs alone to pregnant women, but which the most experienced eye cannot always recognise.

The particular or local signs are of a more positive nature: alone, they do not indicate to a certainty the reality of pregnancy; but they deserve all the attention of the practitioner. These signs are, first, the suppression of the menses; 2nd, the enlargement and expanding of the abdomen; 3rd, the discoloration and brownish appearance of the areola, the swelling of the breasts, and the moisture from the nipple.

There are two remarkable circumstances in the life of women, during the time the monthly courses are suppressed without the health being sensibly affected: these two circumstances are, pregnancy and suckling; but far from the suppression of the menses being a positive sign of pregnancy, it is not always even a rational sign—nothing being so variable or so subject to derangement as this evacuation; any more than its constant and regular appearance is a formal proof that the woman is not pregnant, since there are numerous examples which demonstrate that, although pregnant, some women have not ceased to menstruate, at least during the first months of gestation.

So soon as a woman perceives that her abdomen enlarges and expands, she thinks herself pregnant; above all, if these signs are accompanied by the suppression of the menses.

It is true that pregnancy causes the enlargement and expanding of the abdomen; but causes foreign to pregnancy, which may produce this appearance, are too numerous to allow us to accord to this sign all the value which it merits in the case of a true pregnancy.

Besides, the abdomen does not visibly enlarge until after the third month; and as the feeling at this short period of pregnancy can only furnish vague data, we must only pronounce with much reserve upon the enlargement of the abdomen, even as a rational sign of pregnancy.

Later, and when pregnancy is far advanced, the size of the abdomen adds little to its certainty; other signs, more positive, leave no doubt about its presence.

The sympathy which exists between the uterus and the breasts explains sufficiently the influence that pregnancy exercises upon the latter. In general, this influence is not felt till towards the fourth month, nor is it discontinued until the accouchment, a period when the functions are established in these organs. However, it is not uncommon to see the breasts swell from the beginning of pregnancy, and even furnish by the nipple a secretion sufficiently distinguished. It is these anomalies which throw such uncertainty upon the swelling of the

breasts as presumptive signs of pregnancy; although it is certain that it is one of the least equivocal, because it is uncommon, in false pregnancy, that the causes which occasion them produce upon the breast the same effects as true pregnancy. Alone, however, the swelling of the breasts and the secretion from the nipple would be far from being sufficient motives for believing in the presence of pregnancy; since we have examples in women who were really not pregnant, and with very young girls, where these phenomena were present.

4th. The dark brownish color which encircles the *areola* and the nipple is generally enough looked upon as a sign of pregnancy; because it is demonstrated that the dropsy, and all other circumstances which may produce the enlargement of the abdomen, have no action upon the breasts, and do not give place to any change of form or color in these organs. However, this sign will not always suffice to ensure the presence of pregnancy.

There are some women having the *areola* dark, and others who, even having had several children, have not experienced any change in this part, it always having remained of a pale pink color, even after many pregnancies.

The sensible signs, positive or demonstrative, of pregnancy, are of two species. The former, which are drawn from the sight and feeling, form its experimental or practical history. They make known the changes that the womb experiences, during pregnancy, in its form, its figure, and its situation: this is what may be called the physical phenomena of pregnancy.

The second are not accessible to our senses; they result from the changes that the womb undergoes in its organization during the course of pregnancy, changes which operate in virtue of common functions of which it is already possessed, and which form the physiological phenomena of pregnancy; these are its true rational signs.

Experimental detail of pregnancy.—At the end of the first month, nothing indicates to the accoucheur, at least in a perceptible manner, not even that pregnancy exists, nor even that the womb may be in a state of plenitude or action; any, that is to say rational, signs, not being yet manifest; and the general accounts given by some authors are too vague to allow us to place much faith in them.

It is not the same at the end of the second month (60 days accomplished). The practice of feeling may, by attention, enable us to distinguish the state of the fulness of the womb, as well as that the slight change made in its form and size make us presume on the existence of pregnancy.

During the whole course of the first month, the womb does not appear to experience any sensible change in its form or size; it is even probable that, far from acquiring any increase, it, on the contrary, contracts, as if it would embrace more closely the new production enclosed in its bosom.

At the end of the second month, its size is sensibly increased, its form is become rounded, it fills up the greater part of the pelvis; but the abdomen, far from enlarging, becomes more contracted, more tender, and sometimes a little painful.

After the third month, its size increases, as also its length, the fundus rises to the height of the region of the pubis and superior aperture or brim of the pelvis.*

* See fig. 2, Table IV.

The finger, introduced into the interior of the vagina, will perceive its form rounded, globular, and equal; it can be raised without making the woman feel any perceptible pain; the abdomen is slightly tumefied by the rising of the intestines, (see fig. 2.); but the neck of the uterus has not experienced any change, and consequently cannot furnish any perceptible sign of pregnancy.

The use of the stethoscope, if it were possible to apply it in the interior of the vagina, could furnish, at this period, valuable results to confirm the existence of an organised body in the uterus.

At the end of the fourth month, the uterus emerges from out of the pelvis; its fundus rises to two or three fingers' breadth above the region of the pubis. The abdomen is sensibly enlarged; but it is at the side of the vagina, by the touch, that we can perceive with certainty the presence of pregnancy. It is not impossible to derive certain information by the ballottement*; the head of the fœtus having acquired at this period sufficient size and weight to obey, in a perceptible manner, the motion impressed upon it. It is not even uncommon that, at the same period, the woman should feel the first motion of her child.

At the end of the fifth month, there no longer remains any doubt as to the presence of pregnancy; all the signs, be them sensible or be them rational, unite in crowds to confirm it. We find the fundus of the uterus on a level with the umbilicus.

Feeling makes manifest the presence of the child, and the touch, executed by a careful and experienced hand, shews it with the greatest facility.

At the end of the sixth month, the rapidity with which the expanding of the uterus operates is such, that the extremity of the organ is raised two fingers' breadth above the *umbilicus;* its usual form is that of an *ellipsis,* greatly lengthened from fundus to cervix. We can easily perceive, by feeling, the head of the child through its distended coats. One particularity characterises the end of the sixth month: the neck, which up to this period had not taken any part in the development of the body and of the fundus of the uterus, begins to experience a little enlargement towards its base, its inferior orifice begins slightly to open, the neck itself, a little tumefied, becomes softer, and every thing announces that it is at length disposed to participate in the general dilatation of the womb.

In the course of the seventh month, the fundus of the womb, which still rises a little, begins to enter into the epigastric region; but its elevation no longer presents the same activity: on the contrary, it keeps decreasing, and from the elliptical, the womb tends more and more to take a spherical form, which contributes to the widening of the cervix uteri.

The cervix, in fact, loses more and more of its hardness†, its inferior orifice widens in a very perceptible manner, and we could easily introduce the extremity of the finger into it. It is also at this period that the body of the uterus enlarges, which increases the size of the woman and adds much to her bulk; the touch or ballottement begins to lose its elasticity, the size of the head of the child no longer permitting it to be displaced with the same facility: but this circumstance only tends to render still more evident the pregnancy of which it serves to determine the advanced state.

During the whole eight months, and, above all, towards the end, the fundus of the uterus

* See our Remarks, Plate IV, fig. 2. † Vide Table V, fig. 2.

occupies the greater part of the epigastric region, its bulk is considerably enlarged, and its shape becomes more and more rounded and spherical.

The umbilicus is distended and swollen, the neck loses more and more of its length and of its hardness, it is become soft, swollen above all towards the anterior lip*.

The head of the child is large and heavy, the finger raises it with difficulty, and the ballottement can be no longer executed.

At the end of the ninth month, and consequently of pregnancy, the fundus of the uterus, far from rising more and more as we might suppose, falls lower than it was at the end of the eighth month; we find it near the umbilical region. The cervix uteri is totally effaced, and it no longer presents itself but under the shape of a soft roll or cushion.

The head of the child becomes still larger and heavier, and, as it rests above the superior aperture of the pelvis, it is almost impossible to raise it by the touch or ballottement.

Such is the short sketch of the changes which operate in the form, figure, and size of the uterus, during the whole course of pregnancy.

Although we derive very considerable advantage from attending to the signs of the epochs of pregnancy which are afforded by the development of the uterus, yet none of them are *infallible* before the fifth or sixth month.

An accurate knowledge of the changes which take place in the neck and body of the uterus will, with a careful history of the symptoms, enable us to distinguish pregnancy from ovarian dropsy, tympanitis, moles, polypi, &c.

DESCRIPTION OF PLATE IV.

Fig. 1—Represents a profile view of the virgin female, to shew the form of the abdomen, breasts, &c. The chief points to be observed in this drawing are the form of the abdomen and breasts, and also the relative size and situation of the uterus. The line enclosing the letter A denotes the size and situation of the uterus, and the colored space marked B the course of the vagina.

The uterus is situated in the cavity of the pelvis, betwixt the bladder and rectum, below the small intestines, and above the vagina, in the direction of the axis of the superior strait of the pelvis, and forms nearly a right angle with the axis of the vagina. The os uteri points backwards and downwards, and its anterior lip is lower than the posterior; the direction however will vary a little, as the bladder or rectum may be full or empty.

* See fig. 4.



Fig. 1.

E. Sprat del.

Printed by C. Hullmandel.

Fig. 2.—Represents the female in the third month of pregnancy. We are here to observe the increased size of the abdomen, breasts, and uterus, compared with fig. 1. A. the situation and dimensions of the uterus. B. the course of the vagina.

At the end of the third month, the fundus uteri is on a level with the superior margin of the pubis. About the end of the 4th month, the uterus rises to the hypogastrium, and the spontaneous motions of the fœtus are felt by the mother; but some women never perceive them during the whole period of pregnancy, and others imagine they feel the movements of the child when there is no conception.

At the end of the fifth month, the uterus touches the inferior boundary of the umbilical region, and the cervix uteri will, on examination, be found to be considerably shortened. (See fig. 2, Table V. in the Obstetric Tables.)

At this period, the most certain sign of pregnancy is afforded by the touch or ballottement and auscultation: the touch consists of the introduction of the finger into the vagina, and the application of the other hand above the pubis; the uterus will be felt enlarged, and, if a gentle percussion be applied above the pubis, the fœtus will be made to strike the finger, which cannot take place unless there be a fœtus and fluid in the uterus.

Fig. 3.—This figure represents the female at the full period of six months; the enlarged size of the abdomen and uterus, (marked A.) are very conspicuous; the breast is also more prominent, and the nipple elongated.

At this period of gestation, we may call to our assistance auscultation, to enable us to decide if our patient be pregnant. The application of the stethoscope to the abdomen has been considered by some* as one of the most infallible proofs. M. Le Jumeau de Kergaradic has applied the ear and stethoscope to the abdomen, and discovered the double motion of the fœtal heart, and also the pulsation of the placenta, which was synchronous with the maternal pulse.

Morgagni proposes the following plan for discovering the motion of the fœtus:—In warm weather, let the hand be immersed in cold water, and suddenly applied to the abdomen of the female; and, in cold weather, let the hand be immersed in warm water and applied, when the motions of the child will be distinctly felt. Dr. Ryan says, "I have often acted on these suggestions with success."†

At seven months, the abdomen affords a dull fluctuation, which differs

* Dr. Kennedy, of the Dublin Lying-in Hospital, has written in favor of it. Dr. Ferguson, of Dublin, thinks it an unequivocal proof: see Dub. Med. Trans. vol. i, 1830. Dr. Elliotson, is in favor of it. M. Velpeau has tried it in a number of cases without success; and Dr. Negle, of Dublin, thinks it equivocal.

† Ryan's Manual of Midwifery, 3rd edition, 1831.

from ascites ; percussion affords a dull sound, which is distinguishable from tympanitis or meteorism. At the end of eight months, the uterus has risen to the epigastrium, the cervix nearly obliterated, round, gaping, thickened, and pointing to the cavity of the sacrum. The limbs of the child may generally be felt through the parietes of the abdomen.

Fig. 4—Represents the female at the full period of gestation, (9 months). The uterus is now fully developed, the abdomen greatly distended, the cuticle, from the great distension, appears smooth and polished ; the breast firm and full, and the nipple elongated ; the umbilicus projecting, the cervix uteri is obliterated, and the orifice directed towards the sacrum.

Fig. 5.—On raising fig. 5, the full-grown fœtus is seen in utero, presenting in the natural position.

Fig 1.

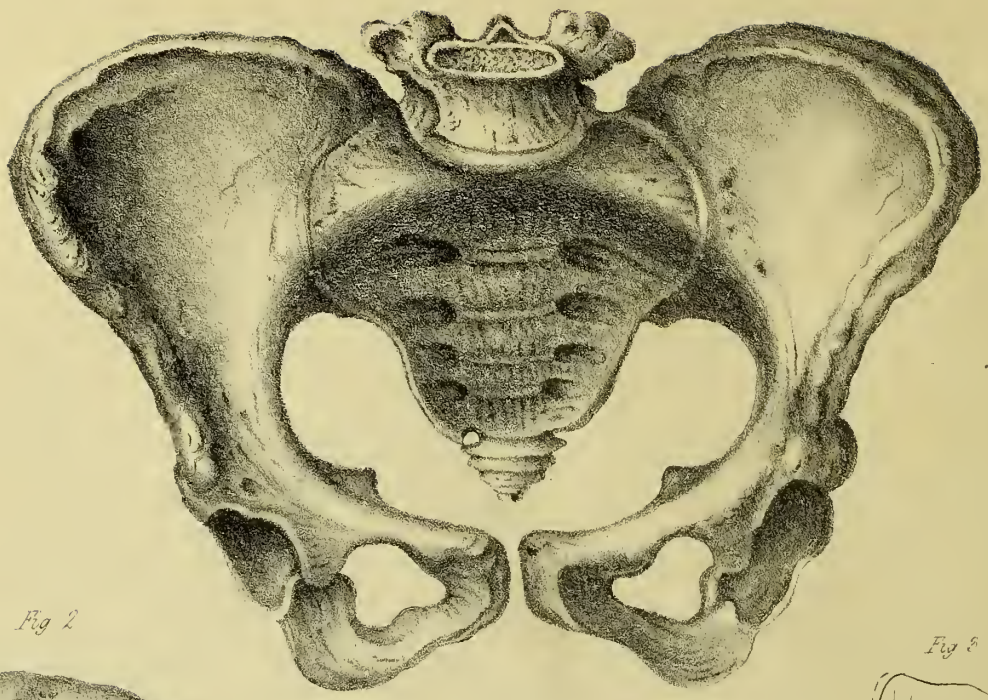


Fig 2

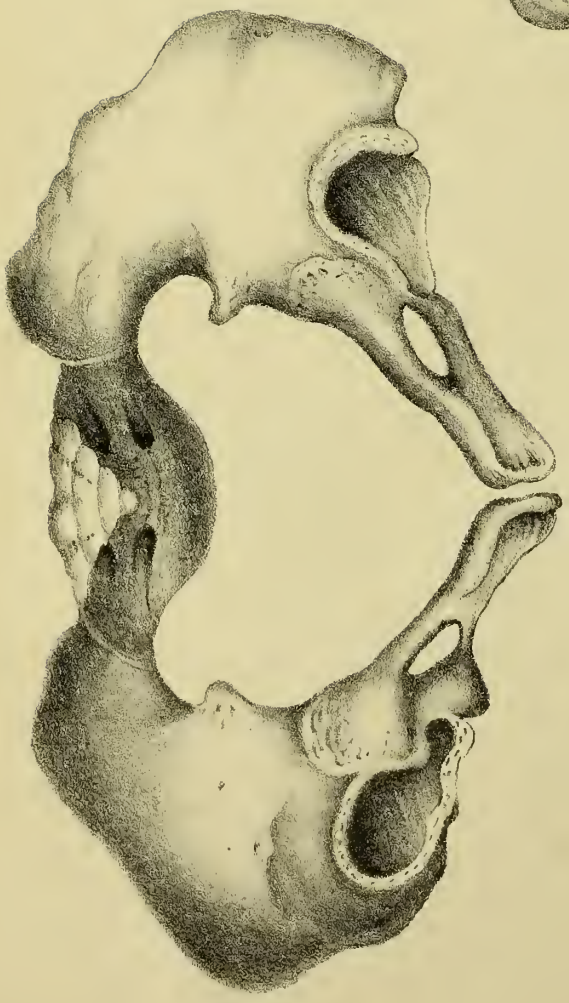
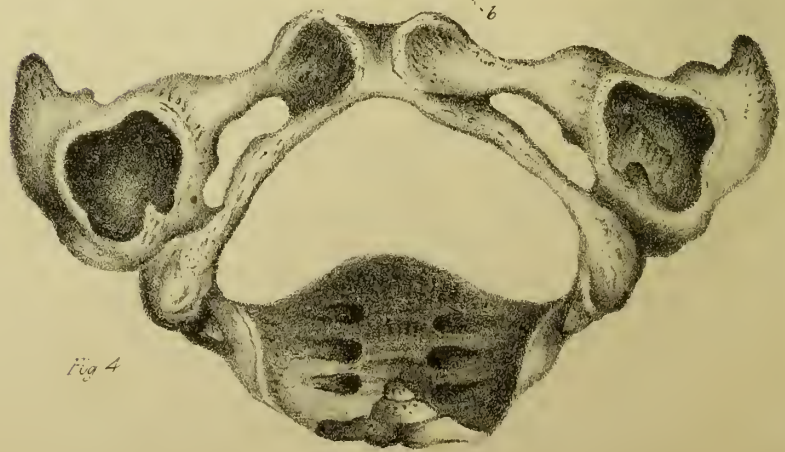


Fig 3



Fig 4



J Spratt del

TABLE I. B.

Fig. 1.—Front view of a perfect and well-formed female pelvis, the ligaments being *removed.*

The adult pelvis consists of four bones; viz. the two *ossa innominata*, the *os sacrum*, and the *os coccygis*. The *ossa innominata* forms the sides and front of the pelvis. The *os sacrum* the posterior part (the upper and projecting part of which is called its promontory). The *os coccygis* is the small bone at the apex or extremity of the sacrum, consisting of three or four irregularly shaped pieces, united to the *sacrum* by an intervening fibro-cartilage, admitting of considerable motion during parturition. This union of the os coccygis to the os sacrum allows the former to recede, in most women, nearly one inch, as the head of the child passes the outlet. The other bones of the pelvis are united by various ligaments and cartilages; and, there being no motion, the union is termed synarthrosis.

Fig. 2.—View of the same pelvis resting on the left ilium. (This view is intended to give a correct idea of the position of the pelvis, when a woman is lying in a recumbent posture on her left side.)

Fig. 3—Represents a section of the bones of the pelvis (the left side). The dotted line from *a* to *a* shows the axis of the brim of the pelvis, the centre of which is where the dotted line crosses the line marked *i*. The curved dotted line, marked *b b*, denotes, at the point where it crosses the dotted line *a k*, the centre of the lower aperture. The dotted circle round the letter *c* shows the situation of the acetabulum; *d*, the foramen magnum; *e*, the bones of the sacrum and coccyx; *f*, the pubis; *g*, the ilium; *h*, the ischium.

Fig. 4.—Horizontal view of the same pelvis. (This is intended to represent the position of the pelvis, when the female, in the act of parturition, is about to be delivered, when lying on her back.)

The above figures are about half the size of the natural pelvis, the drawings being made on the scale of four-eighths of an inch.

The bones of the pelvis claim the particular attention of the accoucheur, as, without a proper knowledge of them, no one can be a competent judge how to act in difficult cases, or under par-

ticular circumstances. The perfect pelvis varies in size in different women: from the rim, the depth varies in some of its parts. It is from four and a half to five or six inches behind, from the top of the sacrum down to the coccyx; from two and a half to three inches at the sides to the lower edge of the ischium; and one and a half to two inches deep at the symphysis pubis.

Three parts of the pelvis demand particular notice. The *brim* or superior aperture; the *outlet* or inferior aperture; and the *cavity*.

Each aperture of the pelvis has two diameters, a long and a short one: in the upper aperture, the long diameter is from side to side (about five inches and a half); the short diameter is from sacrum to pubis (about four and a quarter, or four and a half), but occasionally much wider. The lower aperture differs from the upper, in having the long diameter from the apex of the os coccygis to the pubis; the short diameter is from ischium to ischium.

The pelvis may be properly divided into two cavities or chambers, the upper and the lower. The axis of the upper chamber differs from the lower. The dotted line *a a*, *Fig.* 3, from the coccyx to the scrobiculus cordis (the part between the navel and pit of the stomach), represents the axis of the upper chamber, and shews the direction the forceps ought to take, when it becomes necessary to apply them, when only half the head of the child has entered the brim, and to draw downward and *backward*. But when the head gets lower down, so as to be chiefly in the lower chamber, the axis varies; the forceps will then take a different direction, and continue changing as the head of the child advances in the direction of the central curved dotted line *b b*, *Fig.* 3, when the action with the forceps will be downward and *forward*. In all manual operations, the direction of the axis of the pelvis at its different parts must be accurately observed. "Even in bringing the fœtal body through the pelvis, the course of the axis must not be forgotten, more especially if the pelvis be contracted."*

It must be remembered, however, that the cavity of the pelvis is considerably diminished by its teguments and contents. Correspondent, however, to this diminution of the cavity of the pelvis, the head of the full-grown fœtus measures but three inches and a half from ear to ear (the short diameter of the fœtal head), and four and a quarter from the fore to the hind head (the long diameter). These dimensions, however, it must be recollected, differ both with regard to the pelvis and the fœtal head, and are frequently the cause of lingering labours.

* Dr. Blundell's Lectures.

TABLE II. B

Fig 1 & 2..

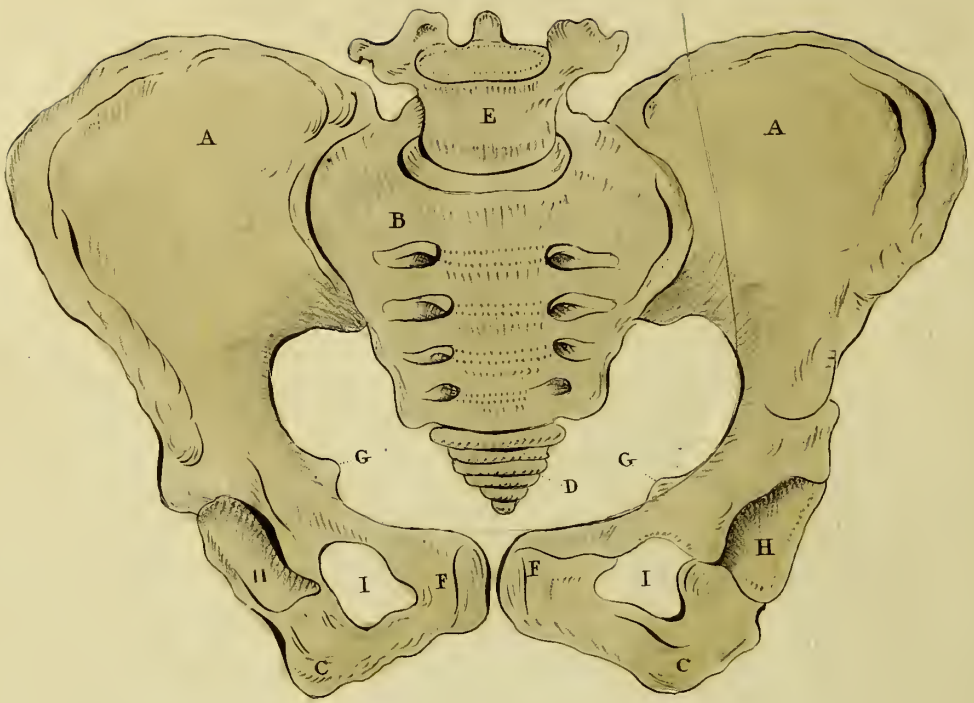
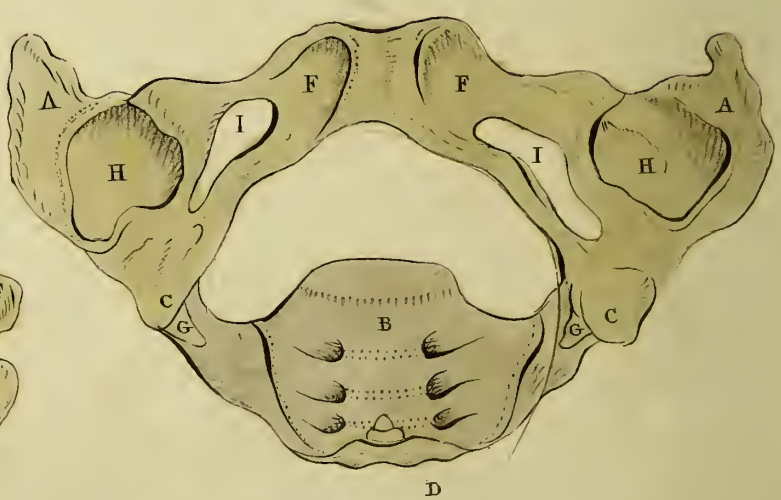


Fig. 5.



Fig. 3 & 4.



G. Spratt del et lith

TABLE II. B.

Fig. 1—Represents lines of *Fig.* 1 in the preceding Tables; *a a*, ossa ilii; *b*, os sacrum; *c c*, ossa ischii; *d*, os coccygis; *e*, the lowermost vertebræ lumborum; *f f*, ossa pubes; *g g*, spinous processes of the ossa ischii; *h h*, acetabula; *i i*, foramen magnum.

Fig. 2—Represents the head of the fœtus, in the first position, passing diagonally through the brim of the pelvis. On raising *Fig.* 2, the fœtal head is seen presenting in the third position*.

In an ordinary labour, the head of the child presenting, the vertex lies over the centre of the pelvis; in the commencement of the process the face lies to one side of the pelvis, and the occiput to the other side; hence the long diameter of the head corresponds with the long diameter of the pelvis (Fig. I.); in this position, should there be no disproportion betwixt the head and the brim of the pelvis, the head very readily descends: sometimes, however, the head of the child is placed with the *face* towards the *pubes*, and then the *long diameter* of the head is opposed to the *short diameter* of the brim or superior aperture (Fig. 2), and consequently the head passes with great difficulty. If the head be large and the pelvis small, it cannot pass, and it may be required to open the head. (See Tab. VII. B.)

The head of the infant commonly passes into the cavity of the pelvis before the position is correctly ascertained; the obstetricians who are well acquainted with the anatomy of the parts, and the divisions of the infant's head (sutures and fontanelles), will often be able to distinguish the direction of the head early in labour. When the head has passed through the rim of the pelvis, there is more space between the forehead and the pelvis than between the occiput and the pelvis; the occiput being so prominent, a finger cannot pass between it and the pelvis. Should the head enter the pelvis with the forehead to one side, and the occiput to the other, instead of coming diagonally (see the third position of the head in this drawing), it may lodge before the spines of the ischia: there will then be considerable space between the side of the head and the symphysis pubis. By feeling the ear nearly opposite the symphysis pubis, and observing on which side the cartilage of the ear is, it will be known where the occiput lies. This mal-position may sometimes be changed to the diagonal direction, by the application of two fingers on the temples, pressing the head a little upwards, and the face round towards the sacrum†: should this not succeed, it may be requisite to employ the forceps.

* Maygrier, D. Davis, &c. &c. † Smellie, Clarke, Conquest, Hogben, and others.

Fig. 3.—Outline of *Fig.* 4 in Table I; *a a*, ossa ilii; *b*, os sacrum; *c c*, ossa ischii; *d*, os coccygis; *e*, the lowermost vertebræ lumborum; *f f*, ossa pubes; *g g*, spinous processes of the ossa ischii; *h h*, acetabula; *i i*, foramen magnum.

Fig. 4—Represents the head of the fœtus passing through the lower aperture or outlet of the pelvis. The vertex towards the pubes and the face lying towards the hollow of the sacrum.

Towards the end of the second stage of labour, and when the occiput is about to emerge from under the arch of the pubis, and begins to protrude through the *os externum*, the accoucheur should place his hand, covered by a soft napkin, in such a manner as to afford a regular and equal support to the perinæum, and guard it from laceration. The head must be prevented from passing over the perinæum until it has acquired sufficient dilatability; nor must it be allowed to pass *suddenly* over it, even when it is considerably relaxed, or laceration may take place.

Fig. 5.—Outlines of *Fig.* 2, Table I; *a a*, ossa ilii; *b*, os sacrum; *c c*, ossa ischii; *d*, os coccygis; *e*, the lowermost vertebræ lumborum; *f f*, ossa pubes; *g g*, spinous processes of the ossa ischii; *h h*, acetabula; *i i*, foramen magnum.

Fig. 2.



Fig. 1.



Fig. 4.



Fig. 3.



Fig. 6.

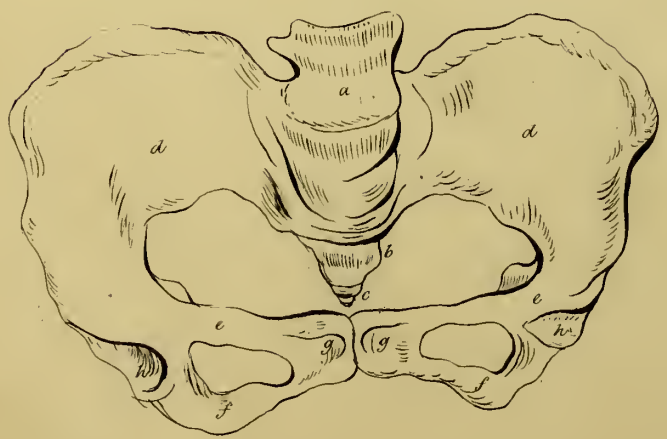


Fig. 5.

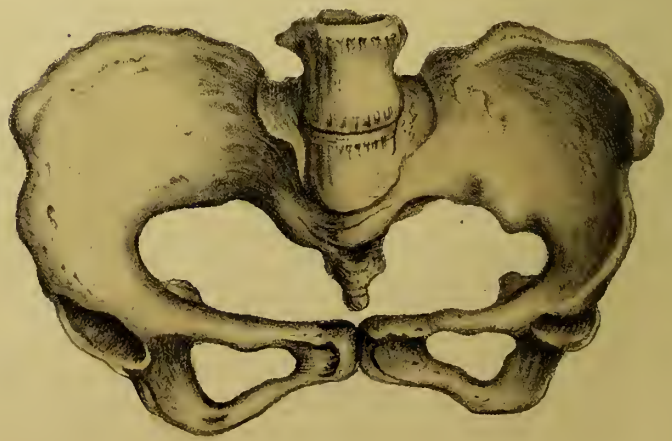


TABLE III. B.

Fig. 1.—Front view of the pelvis somewhat distorted. When the distortion of the bones is not more than in the pelvis here represented, and the head of the child of a moderate size, it may pass by the natural efforts; but if not, the forceps or vectis (if judiciously applied) may succeed.

Fig. 2.—Outlines of the same pelvis; *a a a a*, the lowermost vertebra; *b*, the sacrum; *c*, coccygis; *d d*, ilium; *e e*, ischium; *f f*, tuberosity of ischium; *g*, pubis; *h h*, acetabulum; *i i*, spinous process of ischium.

Fig. 3.—A very remarkable distorted pelvis, occasioned by the disease termed *mollities ossium*. The distance from the most projecting part of the spine to the part where the pubes and ilium unite, measured on the left side only one inch and three-eighths, on the right side one inch. From the internal point of the os pubis on the right side to the centre of the vertebræ one inch and three-eighths, on the left side one inch and a half.

Fig. 4.—Outlines of the same pelvis.

The Cæsarean section was performed by the late Mr. Hunter, on the body of Elizabeth Foster, aged thirty-six, from whose pelvis this drawing was taken. She expired twenty-six hours after the operation; the child was preserved alive. This woman had borne several children previous to her being affected with this disease *(mollities ossium)*. At the time she married she was perfectly straight, and measured five feet four inches high; but, previous to her death, her stature was diminished one foot.

Fig. 5.—View of another greatly distorted pelvis. The distance between the symphysis pubis and the projection of the sacrum measured only seven-eighths of an inch. From the termination of the coccyx to the lower part of the symphysis pubis one inch and seven-eighths.

This drawing was from a model of the pelvis taken out of the body of Mary Rhodes, aged twenty-three years, on whom the Cæsarean operation had been performed by Mr. Thompson, of the London Hospital, October 21, 1769. She expired five hours after the operation. This pelvis is not deformed like that of Elizabeth Foster's, nor from the same cause; Mary Rhodes' was much deformed by rickets, being only four feet four inches high, her back very hollow, her hips narrow, and lower extremities crooked.

Fig. 6.—Outlines of the same pelvis.

Contraction or distortion of the pelvis occurs in every variety of degree: the slighter contractions not unfrequently occasion protracted labours of various duration; but the higher degree of contractions, requiring the use of the perforater, are fortunately rare.

These drawings of distorted pelves were made from casts (from the original skeletons) on the scale of one-third. By comparing these with the perfect pelvis, Table I (which is made on the scale of four-eighths to the inch), the degree and peculiarity of the distortion will be readily discerned.

The female pelvis is much more susceptible of injuries from pressures than the male; the former being wider and more shallow in its cavity, and the bones more slender, to render it conducive to the easy passage of the infant. A distorted female pelvis is liable to be attended with most alarming consequences. There are two general causes for diseased bones in children: the one, and to which children very early are liable, is *rachites* (or rickets); the other, termed *mollities ossium* (a softness of the bones), a malady which may occur at any period of life. From either of these causes the pelvis is liable to become deformed. If the vertebral column become deformed after a person attains the age of puberty, without any appearance of the disease, *mollities ossium*, that is no proof of the pelvis being deformed. But, where the lower extremities are deformed, the pelvis is ever to be suspected of being deformed also; and, in women whose stature does not much exceed three feet, there can be but little doubt that the pelvis is deformed.

There is no great difficulty in determining the dimensions of the pelvis by the fingers in the vagina; but not so readily the size of the child's head in the uterus*.

To ascertain the distortion between the front and the back of the pelvis, let the fore-finger be placed on the promontory of the sacrum, and the rest of the fingers at the arch of the pubes, which will give the distance. To measure the brim from side to side, introduce all the fingers close together, and then, spreading them from one side to the other, the degree of distortion may be ascertained; or all the fingers may be applied to the back of the symphysis pubis. If there be want of room behind the pubis, you will then feel something of an angle there. If the brim be of full measure from side to side, when all the fingers are introduced and placed behind the symphysis, they will all of them lie in the same place.

To measure the outlet of the pelvis from before backwards, place the fingers so that the root of the index one lies against the arch of the pubes, and the tip of it upon the coccyx. Thus ascertaining the measure between the front and back, and by laying all the four fingers into the arch of the pubes, the distance from side to side may be known†.

Those contractions which create the most frequent difficulties, and which, at the bed-side, are found the most frequently to require the use of instruments, are almost invariably found at the brim of the pelvis; therefore, whenever it is suspected that there is such a degree of distortion as may require the use of the forceps, lever, or perforater, the brim is the part of that pelvis which should be first and most carefully examined. When contractions occur at the brim, they are found almost *invariably between* the pubis and sacrum. The contractions lying at the brim are sometimes placed between one and the other side, where they rarely require the use of instruments.

When the pelvis is known to be distorted to a considerable degree, so that an infant at its full time would endanger the life of the mother, and certainly could not be born alive, under such circumstances it may be adviseable to attempt premature delivery at about the seventh or eighth month, as at that age it may be possible for the infant to pass, be born alive, and reared to maturity.

* Foreign practitioners have invented a variety of different instruments, called *pelvemiters*, for measuring the dimensions of the pelvis; but British obstetricians consider them useless.

† Blundell's Lectures.

TABLE IV.B.

Fig 1

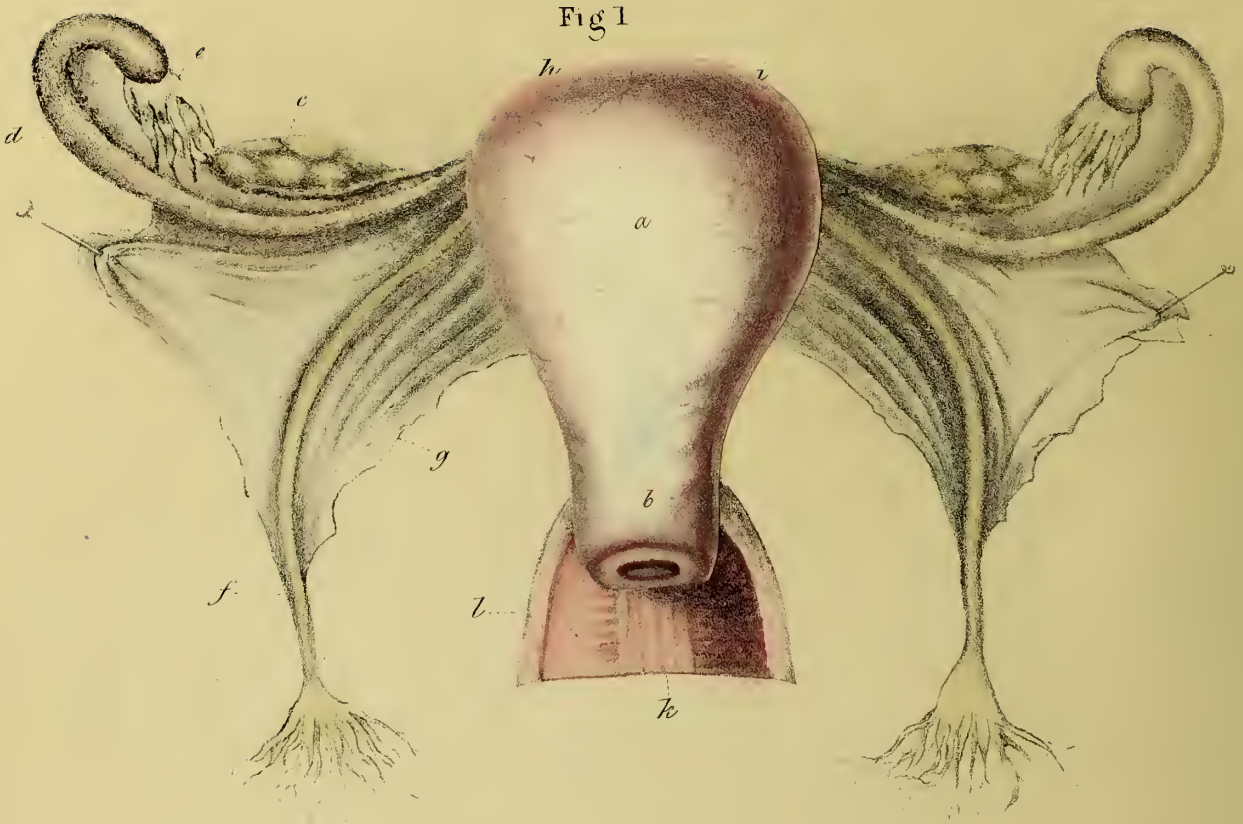
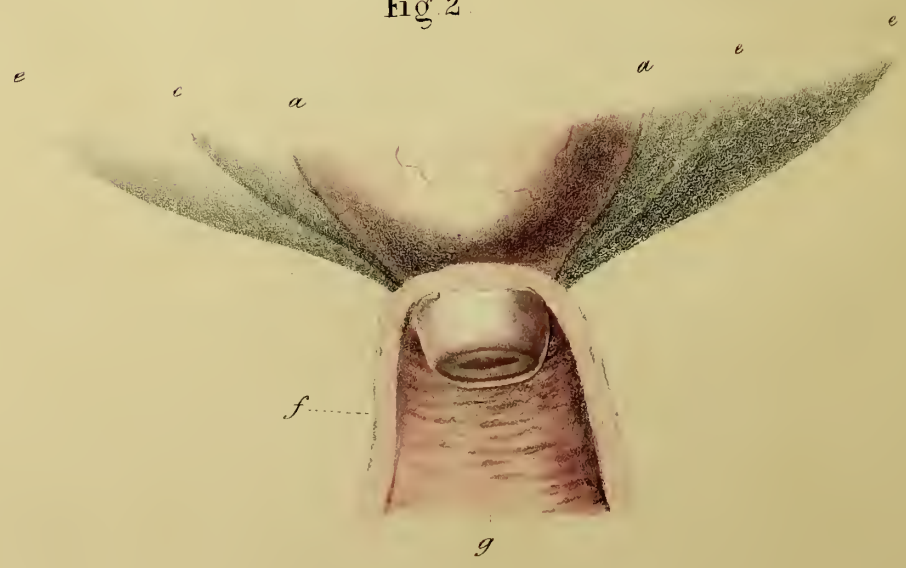


Fig 2



G Soratt del

Printed by G.E. Madeley

TABLE IV. B.

Fig. 1—Represents (of the natural size) a front view of the unimpregnated uterus and its appendages, with a section of the upper part of the vagina, the anterior part of which is removed to shew the collum uteri suspended in it. *a*, the corpus (or body); *b*, the cervix (or neck); these being raised show the cavity of the uterus *i*; the dotted part *h* represents a section of the body, fundus, and neck of the uterus; *c*, the ovaries on each side; *d*, the Fallopian tubes; *e*, the fimbriæ; *f*, the round ligaments; *g*, the broad ligaments. The ovaries, Fallopian tubes, &c. are raised a little out of their natural situation in order to display them the better. *k*, the cavity of the vagina; *l*, the cut edge of the substance of the vagina.*

Fig. 2.—This figure represents the upper portion of the vagina, and the lower part of the body of the uterus and cervix uteri, the anterior part of the vagina being removed to show the cervix uteri, as shortened by pregnancy, about the length it commonly appears at the third or fourth month of gestation. *a a* shows the lower part of the body of the uterus as it is stretched at the same period. By comparing this figure with the unimpregnated uterus, *Fig.* 1, the alteration in the form of the parts will be readily perceived. *Fig. b* shows the cervix uteri at about the sixth month of pregnancy; and *c c*, the body of the uterus at the same period; *Fig. d*, the cervix uteri at the full term of gestation; and *e e*, the uterus, stretched at the same period, which shows that the cervix uteri becomes nearly obliterated at the end of pregnancy.

Considerable allowance, however, must be made in our calculations for the difference in the length of the cervix uteri in different women. In general, if the neck of the uterus be only half its usual length (the cervix uteri in the unimpregnated uterus being somewhat more than an inch in length), we may judge the woman to be between five and six months advanced in her pregnancy; if three-quarters gone, between seven and eight months. At this period, the uterus

* A Description of the Uterus and its Appendages is given in Table III, illustrating the female organs of generation.

leaning forward over the pubes, the neck is thrown back towards the sacrum, and renders it difficult to reach the os tincæ with the finger.

The mode of ascertaining pregnancy, by examination per vaginam, by those who have habituated themselves, may sometimes be pretty correct; but the prudent accoucheur will be cautious in giving his opinion until about the fourth or fifth month*.

To examine well, it is necessary to carry the fingers very far into the pelvis: to do this, the finger must be placed in the front of the pelvis where the bones are shallow, and not on the back and sides where the pelvis is deep.

It may happen that the uterus may become enlarged by disease, in which case, unless particular symptoms are attended to and minutely investigated, the accoucheur will be mistaken in his prognostic.

The os tincæ in the virgin state appears like a crevice or cleft going from side to side, and closed; but in those who have had children it is circular, somewhat like a funnel with the large end downwards, into which the point of the finger may be introduced a little way. When the uterus is unimpregnated, the division between the neck and fundus cannot be distinguished, because it forms so very obtuse an angle; but, if the womb be impregnated, the fundus will be enlarged to the size of an orange at the end of three months. (See *Fig.* 1, *a a.*) The best way of examining will therefore be, before you carry the finger to the os uteri, to pass it up the side of the vagina (to the upper part), and feel for the fundus.

* Vide Denman's Introduction, &c. p. 202.

TABLE V

Fig. 1.

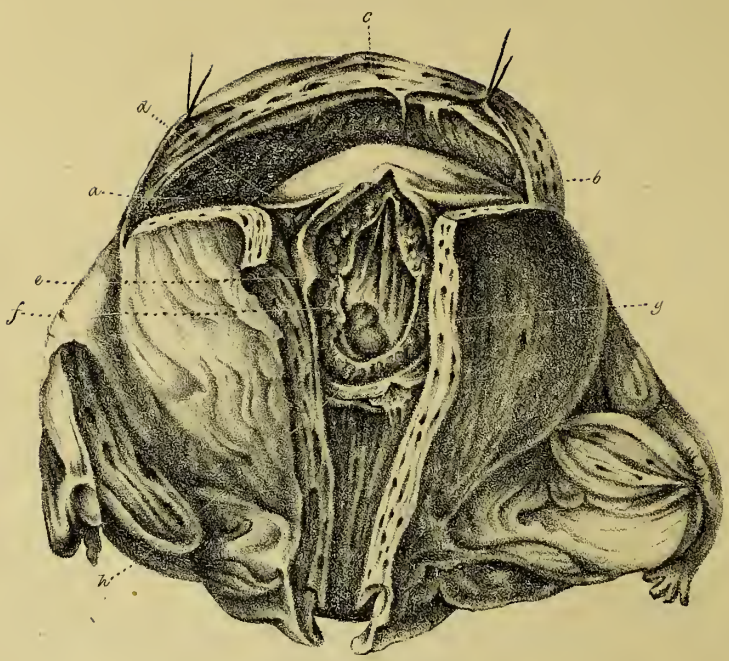


Fig. 3.



Fig. 4.

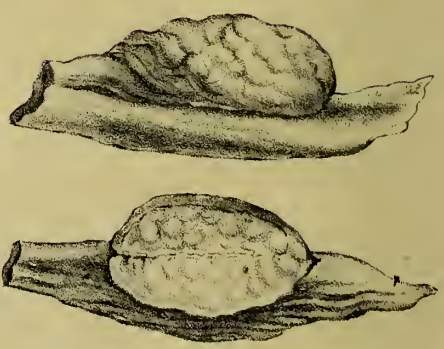


Fig. 2.



Fig. 5.

W Spratt del et lithog

Printed by C Hullmandel

TABLE V.

Fig. 1—Represents the back of the uterus and its appendages in the second month of utero-gestation, with a longitudinal incision down the posterior surface, crossed by a transverse one parallel to the entry of the Fallopian tubes, to shew the ovum. *a*, the right Fallopian tube; *b*, the left ditto; *c*, the decidua uteri, or decidua vera; *d*, the decidua reflexa, or ovuli, covering the unattached part of the ovum; *e*, the decidua vera, or uteri, passing down between the ovum and uterus; *f*, the chorion; *g*, the amnion; *h*, the decidua lying between the chorion and decidua which crossed the cervix uteri. This drawing is half the size of nature; for which, and the following description, we are indebted to Dr. Robert Lee, who kindly permitted us to copy his drawing, illustrating his remarks on the structure and formation of the human ovum, published in the 17th vol. of the Medico-Chirurgical Transactions.

"Intervening between the superior and unattached surface of the ovum and fundus uteri was a broad but shallow cavity, measuring three inches in the lateral, and one inch and a half in the antero-posterior diameter, and from one to two lines in depth. The upper concave surface of the cavity, formed by the decidua lining the fundus uteri or decidua vera, was irregular and slightly reticulated. The inferior convex surface, formed by the decidua covering the ovum or decidua reflexa, was perfectly smooth, resembling the external serous surface of the uterus. Into this cavity the Fallopian tubes freely opened by palpable orifices; that on the left side, by which the ovum had entered the uterus, being rather more than a line in diameter, that in the right rather less. The cavity thus formed between the decidua lining the fundus uteri and the decidua covering the upper and unattached portion of the ovum, was filled with a red-coloured serous fluid."

Fig. 2.—This figure is half the size of nature, and represents the back of an impregnated uterus, with a section of its body, to shew the fœtus between the third and fourth month of gestation*. The child is seen

* At this period the uterus is liable to that displacement named retroversio uteri, which is most commonly occasioned by over distension of the bladder. The treatment of this accident consists chiefly in the regular employment of the catheter; the bladder must be emptied twice in every twenty-four hours, until the uterus by its growth rises above the pelvis.

through the transparent membranes; the decidua reflexa, covering the transparent membrane, is represented by the opaque and white striæ. The blue vessels represent a convoluted vein, and the red convoluted arteries. *a*, the body of the uterus; *b*, the neck; *c*, the ovaries; *d*, the tubes; *e*, part of the broad ligaments; *f*, part of the round ligament. The vagina is represented cut open, to shew the neck of the womb, &c. *g*, the upper part of the vagina, which is smooth and less rugous than the fore part; *h*, the orifice of the urethra; *i i*, the nymphæ; *k*, the clitoris.

Fig. 3—Represents a section of the uterus and ligaments, with the right Fallopian tube containing an extra-uterine conception.

Extra-uterine conceptions are mysterious deviations from the ordinary course of nature: no rational cause has yet been assigned for these occasional deviations. In most of these cases, the woman has sunk from the constitutional disturbance; in others, after many years, an abscess has been formed, and bursting externally through some part of the abdomen, or internally into the large intestines, through which the various bones of the infant have been expelled. The uterus always becomes more or less developed, and secretes its decidua, during extra-uterine conception; and the usual evidences of pregnancy are present.

Fig. 4—Represents an isolated ovarium.

Fig. 5.—A section of an ovarium, in which is seen the vesiculæ Graafianæ, which contains the ovum or germ.

TABLE VI.

Fig. 1—Represents a section of the left side of the female pelvis, with its contents, the upper portion of the left thigh, nates, &c. The uterus at the full period of gestation before labour has commenced, the os tincæ not dilated, the finger in the vagina in the act of an examination. *a*, the left thigh; *b*, the cut edge of the uterus; *c*, the vagina; *d*, section of the abdominal muscles, &c.; *e*, the rectum; *f*, the perinæum; *g*, the bladder; *h*, section of the pubis; *i*, *k*, section of the lower lumbar vertebra, sacrum, and coccygis.

TABLE VI.



Fig. 1.

G. Spratt. del.

Printed by G.E. Madeley

When the finger is introduced through the os externum into the vagina, it should be passed upward and backward to feel for the os uteri, which, at the commencement of labour, will usually be found high up, and pointing backward (towards the sacrum); the touch of the finger will discover if the os tincæ be open, and how much, and if the membranes be pressing down and distending it. The os uteri will in some instances be somewhat relaxed and open for several days, or perhaps weeks, previous to the accession of labour; hence a slight dilatation of the os uteri is no proof that labour has commenced. If the os uteri be closed (as here represented), and some length of the cervix remain, labour cannot have commenced, although the woman may have pains periodical in their return. These are denominated false pains*. But if there should be *pressure* upon, or *dilatation* of the os uteri during the continuance of the pain, we may be persuaded labour has commenced. When the pain is off, carry the finger upwards and towards the symphysis pubis, when the head of the child, if presenting, may generally be perceived by the resistance made to the point of the fingers.

In some instances the os uteri is displaced and tilted backward towards the sacrum, so that it cannot be reached by the finger in the early part of labour. This situation of the os uteri occasions some embarrassment to young practitioners, who, upon a first examination, imagine the pelvis filled up by the head of the child, and hence anticipate a speedy delivery; but, after the lapse of many hours, another and more accurate examination discovers the os uteri scarcely within reach (projecting towards the sacrum), and very little dilated. Labour, rendered tedious by this circumstance, requires only time and patience.

Fig. 2—Represents the same parts, with the os uteri considerably dilated in the time of a pain, the membranes containing the waters protruding, with the index and middle finger of the left hand in the vagina.

When the os uteri lies very high up in the vagina, we have found it more readily reached by the middle finger of the left hand than by the index of the right.

When the os uteri is dilated to about one inch in diameter, the head presenting, the parts well formed, and the woman having had children, the labour may be considered in some forwardness, provided the pains be considerable. But should the membranes be ruptured at this period, either accidentally or intentionally, the labour would be protracted, and probably rendered very tedious, particularly if the os uteri should be disposed to be rigid. Hence, in making an examination, care should be taken not to press forcibly upon the membranes during the continuance of a pain†.

We are told by Dr. Merriman, "It may be safely laid down as a rule (which will admit of very few exceptions), that the membranes should *not* be artificially ruptured, 1, while the head of the *fœtus*, or a large portion of it, is above the brim of the pelvis; 2, while the *os uteri* is undilated, or in a state of rigidity; 3, while the *perinæum* is thick and firm, or rigid"‡.

Fig. 3—Represents the same section of the parts, with a view of the os uteri fully dilated, the membranes (containing the waters) protruding.

* Denman's Introduction to Midwifery, sec. iv, p. 276. † Ibid. p. 282.

‡ Vide Synopsis of Difficult Parturition.

When the os uteri is fully dilated (as here represented), the membranes usually break spontaneously. Should the presenting part of the child not have been previously ascertained, it is no proof against its being a natural labour; but should not the head or other part of the child be discovered by the finger after a pain or two (the membranes being ruptured), it will be justifiable to introduce the hand into the uterus to ascertain the presentation, and then to act according to the circumstances of the case.

Fig. 4—Represents the same section of the parts, with the left side of the uterus removed to show the child in the act of parturition at the termination of nine months' gestation. The head is represented here as advanced into the brim of the pelvis diagonally, with one ear inclined towards the right groin, and the other towards the junction of the sacrum and ilium, the most favourable position for its passing through the upper chamber of the pelvis, the long axis of the head being in the direction of the long axis of the pelvis. On turning down the section of this figure, marked A, the farther advancement of the head towards delivery is delineated.

Fig. B, C, D, and E illustrate the various turns of the fœtal head after its entrance into the lower chamber of the pelvis, to its complete liberation from the os externum; the dotted lines shewing the axis of the pelvis and vagina.

When the head presses on and distends the perinæum, as in *Fig.* C, then it will be necessary to apply the hand close over the perinæum, to support it, and to check the advancement of the head when the forcing is very great, until the perinæum is sufficiently stretched for the head to pass without its causing laceration. Laceration more frequently occurs from want of due caution in supporting the perinæum at this period of labour, than from any other cause. The head being liberated from the os externum (*Fig.* D), ought not to be hastily dragged farther, but suffered to remain for another pain or two, which will generally be sufficient to expel the shoulders and body. When the head only is delivered, and the action of the uterus returns, care must be taken to support the head as it advances, and to direct it upwards to the abdomen of the mother (*Fig.* E), so that it may have a curve, accommodating to the direction of the vagina, and illustrated by the dotted lines.

To ascertain, from the commencement of the natural labour, how long it may continue before the child is delivered (even in those who have had children, and the pelvis well-formed), must in a great measure be uncertain, as much will depend upon the degree of ossification of the cranium and on the size of the child; perhaps, in the general run, it may be calculated that, from the time of the commencement of the pain till the membranes break, eight hours may elapse; after which, if the head pass immediately into the upper chamber of the pelvis, the pains being strong, the vagina and the os externum properly relaxed, the child will be delivered in one hour, or sooner; but if the head be very large, it may be two, three, four, or more hours; and when the child is small, it may be born two or three pains after the membranes rupture. In cases of a first child, it seldom happens that it is delivered in less than twelve hours, even if the child be small.